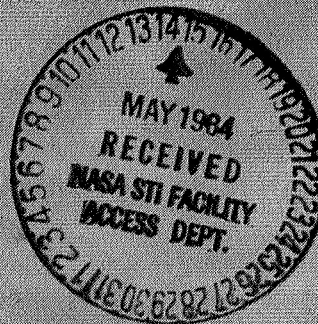


SOFTWARE ENGINEERING LABORATORY (SEL) DATA BASE REPORTING SOFTWARE USER'S GUIDE AND SYSTEM DESCRIPTION

VOLUME 1: INTRODUCTION AND USER'S GUIDE

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National Aeronautics and
Space Administration

Goddard Space Flight Center
Greenbelt, Maryland 20771

**SOFTWARE ENGINEERING
LABORATORY (SEL) DATA BASE
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DESCRIPTION
VOLUME 1: INTRODUCTION AND USER'S GUIDE**

AUGUST 1983



National Aeronautics and
Space Administration

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FOREWORD

The Software Engineering Laboratory (SEL) is an organization sponsored by the National Aeronautics and Space Administration, Goddard Space Flight Center (NASA/GSFC) and created for the purpose of investigating the effectiveness of software engineering technologies when applied to the development of applications software. The SEL was created in 1977 and has three primary organizational members:

NASA/GSFC (Systems Development and Analysis Branch)
The University of Maryland (Computer Sciences Department)
Computer Sciences Corporation (Flight Systems Operation)

The goals of the SEL are (1) to understand the software development process in the GSFC environment; (2) to measure the effect of various methodologies, tools, and models on this process; and (3) to identify and then to apply successful development practices. The activities, findings, and recommendations of the SEL are recorded in the Software Engineering Laboratory Series, a continuing series of reports that includes this document. A version of this document was also issued as Computer Sciences Corporation document CSC/SD-82/6083-V1 and -V2.

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ABSTRACT

This two-volume document presents the Software Engineering Laboratory (SEL) data base reporting software user's guide and system description. The SEL data base reporting software programs provide formatted listings and summary reports of the SEL data base contents. This document is intended to serve as a reference or tool for the SEL data base administrator, librarians, and programmers and for managers and researchers involved in SEL data base activities. It describes the operating procedures and system information for 18 different reporting software programs.

Volume 1 contains an introduction summarizing the reporting software programs and detailed operating procedures for each program. Sample output reports from each program are also provided. Volume 2 contains descriptions of the structure and functions of each reporting software program. Baseline diagrams, module descriptions, and listings of program generation files are also included.

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SECTION 1 - INTRODUCTION

1.1 DOCUMENT ORGANIZATION

The Software Engineering Laboratory (SEL) data base reporting software programs provide formatted listings and summary reports of the SEL data base contents. This document is intended to serve as a reference or tool for the SEL data base administrator, librarians, and programmers and for managers and researchers involved in SEL data base activities. Section 1 discusses the relationship of the reporting software to the SEL Data Base Maintenance System (DBAM) and the SEL data base, provides an overview of the software, and discusses the relationship between the various reporting software programs and the SEL data base files. Section 2 describes in detail the operation of each reporting software program. Sample output reports obtained from each program are also included. Section 3 describes the structure and the implementation considerations of each reporting software program. The reader is assumed to be familiar with the Digital Equipment Corporation (DEC) PDP-11/70 computer and the RSX-11M operating system, the environment in which the SEL data base reporting software operates.

1.2 RELATIONSHIP TO THE SEL DATA BASE AND DBAM

The SEL data base contains data collected by the SEL on numerous software development projects since 1977. These data are stored in indexed files, which are implemented on a DEC PDP-11/70 computer under the RSX-11M operating system.

The data base contains two types of files: header files and project files. Each header file contains a particular type of summary or header data for all projects in the data base. The header files currently included in the SEL data base are as follows:

- Encoding Dictionary (ENC) File
- Estimated Statistics (EST) File
- File Name and Status (STS) File
- Phase Dates (HDR) File
- Subject Evaluations File (SEF)
- Subjective Evaluations Directory (DIR) File

Besides header information, various types of detailed data are collected for each project, and each set of data is stored in a separate project file. Thus, each project may have one or more of the following project files in the data base:

- Accounting Information (ACC) File
- Attitude Maintenance Change Report (ATM) File
- Component Information File (CIF)
- Comment (CMT) File
- Change Report Form (CRF) File
- Component Summary Form (CSF) File
- Component Status Report (CSR) File
- General Project Summary (GPS) File
- Growth History (HIS) File
- Run Analysis Form (RAF) File
- Resource Summary Form (RSF) File

Five of these file types correspond directly to forms currently in use for collecting software engineering data (CRF, CSF, CSR, RAF, and RSF), and two types are not currently implemented in the data base (ATM and GPS).

In addition to the header and project files, the SEL data base contains auxiliary files, such as Transaction Files, which are used to guard against data loss between data base backups. The organization and contents of the SEL data base are described in detail in Reference 1.

The reporting software described in this document produces formatted listings and summary reports of the contents of the SEL data base files. None of the programs described here modifies the data in the SEL data base in any way. The SEL data base files are created, updated, and maintained by another collection of software, the SEL DBAM, documented in Reference 2.

1.3 GENERAL OVERVIEW OF SEL DATA BASE REPORTING SOFTWARE

The SEL data base reporting software currently contains 18 different programs, as listed below.

1. Detailed Component Status Report Reporting Program (CS)
2. Profile Report Program (PF)
3. Resource Utilization Report Program (RU)
4. Weekly Hour and Form Count Report Program (WK)
5. Component Information Report by Function Type Program (REP4) and Its Preprocessor, the Change and Error Accumulation Program (CG)
6. Component Information Report Program (REP5)
7. Graphing Program (GQ)
8. Form Counter Program (NF)
9. SEL Data Base Listing Program (LISTDB)
10. SEL Data Base Recent Activity Report Program (RC)
11. SEL Data Base Record Counting Report Program (RPSTCTR)
12. Component Name Report Generator Program (RPCOMPNM)
13. Subjective Evaluations File Listing Program (DBRPTSEF)
14. Subjective Evaluations Directory File Listing Procedure (DBRPTDIR)
15. Encoding Dictionary Listing Procedure (DBRPTENC)
16. Phase Dates File Listing Procedure (DBRPTHDR)
17. File Name and Status File Listing Procedure (DBRPTSTS)
18. Estimated Statistics File Listing Procedure (DBRPTEST)

Section 2 contains the user's guide for each program, and the system description is given in the corresponding subsection of Section 3.

Table 1-1 shows the relationship between the various reporting programs and the SEL data base files. For each report produced by each program, the table indicates the type and range of data presented. The report name shown in the table is the same as the program name if only one report is produced by that program. However, if more than one type of report is generated by a particular program, the report names are listed separately under the program name.

Table 1-1. Cross-Reference Between Reporting Programs and SEL Data Base Files
(1 of 2)

PROGRAM REPORT	PROJECT DATA FILES										HEADER FILES				FULL DATA BASE	BY PROJECT
	ACC	CIF	CMT	CRF	CSF	CSR	HIS	RAF	RSF	DIR	ENC	EST	HDR	SEF	STS	
CS						•						•	•			•
PF		•										•	•			•
CIF				•								•	•			•
CRF												•	•			•
CSF					•							•	•			•
RAF								•				•	•			•
RU						•			•			•	•			•
WK																
AW1												•	•			•
AW2								•				•	•			•
HW				•				•				•	•			•
MW					•							•	•			•
RH1									•			•	•			•
RH2									•			•	•			•
RH3									•			•	•			•
RP									•			•	•			•
RR									•			•	•			•
TH						•						•	•			•
TW						•						•	•			•
XW1	•											•	•			•
XW2	•											•	•			•
XW3	•											•	•			•
CG				•												•
REP4		•		•												•
REP5		•		•												•
INTERMEDIATE FILE OR USER-CREATED FILE																
GQ																•
NF				•	•	•		•	•			•	•			•
LISTDB		•		•	•	•	•	•	•			•	•			•
RC																•

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Table 1-1. Cross-Reference Between Reporting Programs and SEL Data Base Files
(2 of 2)

PROGRAM REPORT	PROJECT DATA FILES										HEADER FILES				FULL DATA BASE	BY PROJECT
	ACC	CIF	CMT	CRF	CSF	CSR	HIS	RAF	RSF	DIR	ENC	EST	HDR	SEF	STS	
RPSTCTR		•	•	•	•	•	•	•	•			•	•		•	2
RPCOMPNM		•												•		3
DBRPTSEF ⁴																
DBRPTDIR ⁴										•						
DBRPTENC ⁴											•					
DBRPTHDR ⁴													•			
DBRPTSTS ⁴															•	
DBRPTTEST ⁴												•				

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¹THE RC PROGRAM ACCESSES ALL THE TRANSACTION FILES OF THE SEL DATA BASE. HOWEVER, THERE ARE NO TRANSACTION FILES FOR THE HEADER FILES, ACC FILES, AND CMT FILES.

²THE RPSTCTR PROGRAM COUNTS RECORDS FOR ALL SEL DATA BASE FILES EXCEPT THE ENCODING DICTIONARY, THE SUBJECTIVE EVALUATIONS FILE, THE SUBJECTIVE EVALUATIONS DIRECTORY FILE, AND THE ACC FILES.

³THE RPCOMPNM PROGRAM ACCESSES ALL CIFs IN THE SEL DATA BASE AND GENERATES A REPORT OF COMPONENT NAMES BY PROJECT.

⁴EACH OF THESE PROGRAMS GENERATES A LISTING OF THE CONTENTS OF A PARTICULAR HEADER FILE.

1.4 RELATIONSHIP BETWEEN THE REPORTING SOFTWARE AND THE SEL DATA BASE FILES

The reporting software may be divided into two groups of programs: data base dump utilities (LISTDB, DBRPTSEF, DBRPTDIR, DBRPTENC, DBRPTHDR, DBRPTSTS, and DBRPTEST) and summary reporting programs (CS, PF, RU, WK, REP4, REP5, GQ, NF, RC, RPSTSCTR, and RPCOMPNM). The data base dump utilities produce formatted listings of the contents of the SEL data base files. These utilities are mainly used by the librarians and the SEL data base administrator to monitor the SEL data base; however, some utilities may also be useful for researchers or managers who wish to examine the data (for example, DBRPTDIR, DBRPTSEF, or DBRPTEST). Table 1-2 gives the files listed by each of the data base dump utilities.

The summary reporting programs produce various tables or graphs summarizing the data or presenting simple statistics based on the data in the SEL data base. These reports are primarily of interest to researchers or persons interested in projects being monitored by the SEL; however, some are also of interest to the librarians and the SEL data base administrator for monitoring the data base (for example, NF, WK, RC, or RPSTSCTR). Table 1-3 shows the types of data from the SEL data base used by each summary reporting program. For each report produced by each program, the table includes a brief description of the report and indicates the types of data used to produce it.

Table 1-2. Relationship Between Data Base Dump Utilities and SEL Data Base Files

PROGRAM	FILE TYPE ACCESSED														
	ACC	CIF	CMT	CRF	CSF	CSR	HIS	RAF	RSF	DIR	ENC	EST	HDR	SEF	STS
LISTDB		•		•	•	•	•	•	•		1				
DBRPTSEF											1			•	
DBRPTDIR										•					
DBRPTENC											•				
DBRPTHDR													•		
DBRPTSTS															•
DBRPTTEST												•			

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¹LISTDB AND DBRPTSEF ACCESS THE ENCODING DICTIONARY TO PRODUCE THEIR REPORTS BUT DO NOT LIST THE CONTENTS OF THE ENCODING DICTIONARY ITSELF.

Table 1-3. Cross-Reference Between Summary Reporting Programs and
SEL Data Base Files (1 of 2)

PROGRAM REPORT	FUNCTION	FILE TYPE ACCESSED														
		ACC	CIF	CMT	CRF	CSF	CSR	HIS	RAF	RSF	DIR	ENC	EST	HDR	SEF	STS
CS	REPORTS CSR DATA BY PROGRAMMER BY PROJECT		•				•					•	•	•		
PF	SUMS THE FOLLOWING:															
CIF	RESPONSES FROM CIF BY PROJECT		•										•	•		
CRF	RESPONSES FROM CRF FILE BY PROJECT				•								•	•		
CSF	RESPONSES FROM CSF FILE BY PROJECT					•							•	•		
CSR	RESPONSES FROM CSR FILE BY PROJECT						•						•	•		
RU	SUMMARIZES MANPOWER AND COMPUTER RESOURCES FOR A GIVEN PROJECT						•						•	•		
WK	PROVIDES THE FOLLOWING:															
AW1	RAF FORM COUNT BY PROGRAMMER BY WEEK								•			•	•	•		
AW2	RAF RUN COUNT BY PROGRAMMER BY WEEK								•			•	•	•		
HW	CRF FORM COUNT BY PROGRAMMER BY WEEK				•							•	•	•		
MW	CSF FORM COUNT BY PROGRAMMER BY WEEK					•						•	•	•		
RH1	RSF PROGRAMMER HOURS COUNT BY WEEK									•		•	•	•		
RH2	RSF SERVICES HOURS COUNT BY WEEK									•		•	•	•		
RH3	RSF COMPUTER HOURS COUNT BY WEEK									•		•	•	•		
RP	RSF PERSON COUNT BY WEEK									•		•	•	•		
RR	RSF RUN COUNT BY WEEK									•		•	•	•		
TH	CSR HOURS COUNT BY PROGRAMMER BY WEEK						•					•	•	•		

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Table 1-3. Cross-Reference Between Summary Reporting Programs and
SEL Data Base Files (2 of 2)

PROGRAM REPORT	FUNCTION	FILE TYPE ACCESSED														
		ACC	CIF	CMT	CRF	CSF	CSR	HIS	RAF	RSF	DIR	ENC	EST	HDR	SEF	STS
TW	CSR FORM COUNT BY PROGRAMMER BY WEEK						•					•	•	•		
XW1	ACCOUNTING INFORMATION RUN COUNT BY WEEK	•										•	•	•		
XW2	ACCOUNTING INFORMATION CPU + IO (95) HOURS COUNT BY WEEK	•										•	•	•		
XW3	ACCOUNTING INFORMATION CPU + IO (75) HOURS COUNT BY WEEK	•										•	•	•		
REP4	PRODUCES CIF REPORT BY FUNCTION TYPE		•		•											
REP5	PRODUCES CIF REPORT		•		•											
GQ	GENERATES GRAPHING PROGRAM															
NF	COUNTS THE NUMBER OF FORMS BY PROGRAMMER FOR A GIVEN PROJECT				•	•	•	•				•	•	•		
RC	PRODUCES SEL DATA BASE RECENT ACTIVITIES REPORT															
RPSTCTR	COUNTS NUMBER OF RECORDS ON EACH DATA BASE FILE		•	•	•	•	•	•	•			•	•	•		•
RPCOMPNM	GENERATES COMPONENT NAMES FROM ALL CIFs		•									•				

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SECTION 2 - USER'S GUIDE

This section contains the user's guide for the SEL data base reporting programs. The function of each program and the program invocation and operation are presented, including descriptions of all options available to the user and samples of all output reports. Information on the required system resources and approximate execution time is also given. In addition, error messages, program restrictions, and any required intermediate files are described when applicable.

2.1 DETAILED COMPONENT STATUS REPORT REPORTING PROGRAM (CS)

2.1.1 INTRODUCTION

2.1.1.1 Function and Purpose

The Detailed Component Status Report Reporting Program (CS) produces a report of the Component Status Report (CSR) file for a given project to provide information on how programmers use their time. The program supplies a detailed breakdown of programmer hours as reported on the CSR forms for a given project. Each programmer's activities are listed in a separate section of the report, and each section is divided into two parts: the activity section, which is a summary of various activities as listed on the CSR form, and the component section, which summarizes the hours spent on each component. Both sections are subdivided by phase. The activity section consists of requirements, design, code, test, and other phases; the component section consists of design, code, and test phases. A sample of the report produced by the CS program is given in Section 2.1.4.

2.1.1.2 System Resources

The CS program is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a lineprinter, and a disk. The terminal acts both as an input and an output message device when the user interacts with the program. Input to the program consists of user-entered options and the selected SEL data base file. The SEL data base is permanently stored on disk and is on line to the PDP-11/70. The output report is stored on disk by the CS program and may be directed to the lineprinter by the user after the program terminates.

2.1.1.3 Approximate Run Time

The normal execution time of the CS program depends on the size of the CSR file for the given project. The approximate

execution times (wall-clock times) for CSR files of average and large size are listed below.

<u>Project</u>	<u>Number of Rec- ords in CSR File</u>	<u>Execution Time (Minutes)</u>		
		<u>No Programmer Reports</u>	<u>One Programmer Report</u>	<u>All Programmer Reports</u>
ISEEB	1027	60	2.5	48.5
DEA	5191	60	19.0	176.5

2.1.1.4 Error Messages

The following error messages are produced by the CS program (where the Xs are replaced by the actual values):

```

UNKNOWN OTHER NAME:  XXXXXXXX
NO CODE DATA FOR PROGRAMMER XXXXXX
ERROR IN READING CSR FILE
GETPRG - ERROR = X
INVALID OPTION
ONLY MAXIMUM OF XX CATEGORIES USED
ONLY MAXIMUM OF XX SUBCATEGORIES USED
NO CATEGORIES FOUND ON KEY FILE
NO CHARACTERS TO BE READ (RDSEQ)
ERROR IN OPENING XXXXXXXXXXXXXXXXXXXXXXXX
NAME NOT FOUND OR ERROR IN READING HEADER RECORD
NAME NOT FOUND OR ERROR IN READING ESTIMATED STATISTICS
RECORD
ERROR IN DECODING RECORD
RECORD NOT FOUND OR ERROR IN READING CSR RECORD
FCIF3 - RECORD NOT FOUND OR ERROR ON CIF

```

2.1.1.5 Restrictions/Relation to Other Software

A space limitation creates restrictions in running the CS program. First, the total number of programmers on the CSR file for the given project cannot exceed 15. If more than 15 programmers are encountered, the CS program ignores the remainder of the programmers on the selected CSR file.

Second, the maximum number of major activity categories is 20. If this maximum is exceeded, the following message will appear on the user's terminal: ONLY MAXIMUM OF 20 CATEGORIES USED. Third, the maximum number of activity subcategories is 60. A message of ONLY MAXIMUM OF 60 SUBCATEGORIES USED will be displayed if this number is exceeded.

2.1.2 PROGRAM INVOCATION

Before invoking the CS program, the user must copy the CSR activity keywords file (CSR.KEY) from DB1:[204,6] to the user's identification code (UIC). This file describes the activity categories and subcategories to be reported on in the activity section of the CS report. A listing of the current version of this file is shown in Figure 2-1.

The activity keywords file contains three types of records: comment records, category records, and subcategory records. Comment records are identified by a C in column 1 and are ignored by the CS program. Category records contain the activity category names in columns 3 through 22. The names give the major categories reported on for each phase (requirements, design, code, test, and other) in the activity section of the report. Currently, the categories are CREATE, READ, REVIEW, UNIT TEST, INTEGRATION TEST, MEETINGS, TRAINING, TRAVEL, MANAGEMENT, MAINTENANCE, OTHER, and DOCUMENTATION. The CS program can handle a maximum of 20 major activity categories.

The subcategory records contain the activity subcategory name (columns 5 through 16), the subcategory key (columns 20 and 21), and the subcategory type (column 25). The subcategory type indicates the origin of the data for the given

C				1
C	@CSR.KEY			2
C				3
C	DESCRIPTOR NAMELIST TYPE FILE FOR THE CSR DETAILED REPORT PROGRAM			4
C				5
	CREATE			6
	REQ			7
	DESCREAT	2	C	8
	CODE	3	C	9
	\$\$KEYPCH	3	\$	10
C				11
	READ			12
	REQ			13
	DESREAD	2	C	14
	CODEREAD	3	C	15
C				16
	REVIEW			17
	REQ			18
	DESREV	8	C	19
	CODEREV	3	C	20
	REVTEST	9	C	21
	ACCTEST	1	F	22
	\$\$DEMO	1	\$	23
	\$\$ROSW	1	\$	24
	\$\$CONSUL	6	\$	25
	\$\$INTERF	6	\$	26
	\$\$RREQS	1	\$	27
C				28
	UNIT TEST			29
	UNITTEST	4	C	30
C				31
	INTEGRATION TEST			32
	INTGTEST	4	C	33
	\$\$BLKTIM	4	\$	34
	\$\$SYSTST	4	\$	35
C				36
	MEETINGS			37
	MEETINGS	7	F	38
	\$\$ANALYT	1	\$	39
	\$\$STATUS	6	\$	40
C				41
	TRAINING			42
	TRAINING	7	F	43
	\$\$MANUAL	6	\$	44
	\$\$RSTDS	6	\$	45
C				46
	TRAVEL			47
	TRAVEL	7	F	48
C				49
	MANAGEMENT			50
	MANAGEMENT	7	R	51
C				52
	MAINTENANCE			53
	LIBRARIN	7	R	54
	\$\$DATSET	6	\$	55

Figure 2-1. CSR Activity Keywords File
([204,6]CSR.KEY) (1 of 2)

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CSR.KEY

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C				56
	OTHER			57
	OTHER	7	R	58
	COMP TECH	7	R	59
	\$\$TOOL	1	\$	60
	\$\$DATGEN	9	\$	61
	\$\$SIM	5	\$	62
	\$\$SEMINR	5	\$	63
C	REVIEW	1	F	64
C				65
	DOCUMENTATION			66
	FORMS	7	F	67
	USERGUID	5	F	68
	SYSDESCR	5	F	69
	SECRETARY	7	R	70
	TECHPUBS	7	R	71
	\$\$QUESTS	1	\$	72
	\$\$MEMO	6	\$	73
	\$\$NOTEBK	2	\$	74
	\$\$MNTHLY	6	\$	75
	\$\$WEEKLY	6	\$	76
	\$\$PAPERW	6	\$	77
	\$\$PLANS	6	\$	78
	\$\$TESTPL	4	\$	79
	\$\$IMPLAN	5	\$	80
	\$\$SCHEDL	6	\$	81
	\$\$PRESNT	6	\$	82
	\$\$SYSTAP	5	\$	83
	\$\$XEROX	6	\$	84

Figure 2-1. CSR Activity Keywords File
 ([204,6]CSR.KEY) (2 of 2)

subcategory. The allowed values for the subcategory type are listed below.

<u>Type</u>	<u>Description (Source of Data)</u>
C	Nine component subcategories on the CSR form (design-create, read, formal review; code development-code, read, formal review; test-unit, integration, review)
F	Nine other fixed activities on the CSR form (travel, forms, meetings, acceptance testing, training, user guide, system description, job control language (JCL), overlay)
\$	Any other activities on the CSR form (except the fixed activities given in type F)
R	Management and other hours (for example, secretaries, librarians) on the Resource Summary Form (RSF)
blank	Data not accumulated for this subcategory

The user needs to add or modify only subcategories of type \$ because types C, F, and R correspond to fixed entries on the RSF and CSR forms. The subcategory key describes how the hours recorded on the forms for this activity subcategory are to be allocated among the various phases (requirements, design, code, test, and other). The allowed values of the key field are listed below.

<u>Key</u>	<u>Description (Allocation of Hours)</u>
1	All hours allocated to requirements activity phase
2	All hours allocated to design activity phase
3	All hours allocated to code activity phase
4	All hours allocated to test activity phase
5	All hours allocated to other activity phase
6	All hours during design calendar phase allocated to design activity phase; all hours during code calendar phase allocated to design, code, and test activity phases according to computed percentages; all hours during system and acceptance testing calendar phase allocated to test activity phase; all hours during cleanup calendar phase allocated to other activity phase

<u>Key</u>	<u>Description (Allocation of Hours)</u>
7	A computed fraction of hours in each calendar phase allocated to the requirements activity phase; then remaining hours in each calendar phase allocated as described for item 6 above
8	20 percent of all hours allocated to requirements activity phase; 80 percent of all hours allocated to design activity phase
9	All hours during design, code, system testing, and acceptance testing calendar phases allocated to design activity phase; all hours during cleanup calendar phase allocated to other activity phase
blank	Data not accumulated for this subcategory

The calendar phases for the given project are obtained from the Phase Dates (HDR) file.

The CS program can handle a maximum of 60 activity subcategories. The subcategory records must be placed in the file following the category record for the major activity category to which the subcategory belongs.

The user must also copy the CS parameters file (CSR.NL) from DB1:[204,6] to the UIC before invoking the CS program. This file contains various user options and debug switches. A listing of the current version of this file is shown in Figure 2-2.

The CS parameters file contains two kinds of records: comment records and parameter records. Comment records are identified by a C in column 1 and are ignored by the CS program. There are 23 parameter records, each containing the value of the parameter in I6 format in columns 1 through 6. The remainder of each parameter record is ignored by the CS program and is used only for identification. The first 15 parameters are debug switches for various CS subroutines used for program maintenance purposes. Parameters 16, 17, and 22 are not used by the program. The remaining parameters (18, 19, 20, 21, and 23) represent user options and

C		1
C	@CSR.NL	2
C		3
C	NAMelist FILE FOR CSRrPT	4
C		5
	O (1) GETNL	6
	1 =0 => WRITE TO UNIT 8 (FRACT)	7
	O (3) CSRrPT	8
	O (4) GTKEYS	9
	O (5) GETPRG	10
	O (6) GETNAM	11
	O (7) DDCSR	12
	O (8) ACC	13
	O (9) FRACT	14
	O (10) SUMOTH	15
	O (11) ASTAT	16
	O (12) INSET	17
	O (13) CMPRPT	18
	O (14) OTHRPT	19
	O (15) STACK2	20
	O (16) -	21
	O (17) -	22
	30 (18) REPORT PRINTING THRESHOLD - MINIMUM HOURS REQ FOR PRINTING	23
	60 (19) START COLUMN OF REPORT (6-80)	24
	5 (20) REPORT LEVEL (0-5) FOR 'OTHER' ACTIVITY STATISTICS	25
	5 (21) REPORT LEVEL (0-5) FOR COMPONENT NAME STATISTICS	26
	O (22) -	27
	O (23) PHASE: O=ALL 1=REQ 2=DES 3=CODE 4=SYS 5=ACC 6=CLN 7=MNT	28

Figure 2-2. CS Parameters File ([204,6]CSR.NL)

may be modified in the user's copy of the CS parameters file; they are described below.

<u>Parameter</u>	<u>Sample Number</u>	<u>Description</u>
18	30	Minimum number of hours for printing report for a given programmer
19	60	Start column of report (6-80); shifts printout to right side of page for blue book listing if desired
20	5	Report level for other activities section of report: = 1-3, no report = 4, less detailed = 5, most detailed
21	5	Report level for component section of report: = 1-3, no report = 4, less detailed = 5, most detailed
23	0	Phase(s) for which forms in CSR file are to be included: = 0, all phases = 1, requirements = 2, design = 3, code and test = 4, system test = 5, acceptance test = 6, cleanup = 7, maintenance

After transferring the CSR activity keywords and CS parameters files to the UIC and modifying them if desired, the user may invoke the CS program. The user initiates the program by logging onto the UIC and entering the following command on the user's terminal:

```
RUN [204,5]CS
```

2.1.3 PROGRAM OPERATION

After invoking the CS program, the user will be prompted for the project name and the option desired. The following

three options are available to identify the reports to be generated:

- EVERY produces a report on every programmer on the CSR file plus a summary report containing the hours of all programmers combined.
- NONE produces only the summary report for all programmers combined.
- PROG produces a report on only those programmers entered and does not produce the summary report.

If EVERY or NONE is entered, no prompt for the programmer names is given. If PROG is entered, a prompt is given for the programmer names. When entering programmer names, a null line (carriage return only) stops prompting and begins processing. To terminate processing of the CS program, the user enters ^Z (control Z) in response to any prompt.

The CS program produces an output file, FOR010.DAT, that contains all names of other activities in the given project's CSR file that do not match an activity subcategory name on the CSR activity keywords file. The names of any other activities given in the FOR010.DAT file that are considered valid may then be added to the user's copy of the CSR activity keywords file. (Names from FOR010.DAT considered invalid may be used to initiate corrections to the SEL data base file via the SEL Data Base Administrator.) Printing or renaming the FOR010.DAT file after each run will prevent information loss during subsequent executions of the CS program.

Indirect files are allowed in response to prompts by pre-facing the file name with @; for example

ENTER PROJECT NAME > @TEMP.DAT

where TEMP.DAT might be a file containing the following:

```
DEA
NONE
DEB
EVERY
```

The CS program will then produce a report for project DEA with option NONE and a report for project DEB with option EVERY.

The output report is stored by the CS program in file

<PRJNAM>.CS, where <PRJNAM> is the project name.

After the CS program finishes executing, the user may print the output report using the PRINT command; for example

```
PRINT DEA.CS
```

2.1.4 SAMPLE OUTPUT

Figure 2-3 is a sample of output produced by the CS program for project DESIM using option NONE. This output contains only the summary report for all programmers combined. The first page contains a summary of the estimated project statistics and the starting and ending dates of the calendar phases. These data are obtained from the Estimated Statistics (EST) and the HDR files. If option EVERY or PROG is selected, the first page will also contain the list of programmers in the report.

After the first page, the activity section of the summary report is given, followed by the component section. If option EVERY or PROG is selected, activity and component sections for each programmer will be produced in addition to or instead of the summary report sections.

09-JUN-82 09:44:34	COMPONENT STATUS REPORT	LEVEL 5	PROJECT DESIN
32 PERSON MONTHS	102 MODULES	PHASES	START
63 HOURS ON IBM 360	15256 SOURCE LINES	REQUIREMENTS	0/ 0/ 0
1589 RUNS (ACCOUNTING REPORT)	255 CHANGES	DESIGN	79/10/ 1
		CODE & UNIT TEST	80/ 4/12
		SYSTEM TEST	80/ 8/30
		ACCEPTANCE TEST	80/ 9/27
		CLEANUP	80/10/25
		MAINTENANCE	80/11/29
			END
			0/ 0/ 0

SUMMARY ONLY

Figure 2-3. CS Summary Report (1 of 11)

09-JUN-82 10:10:09	COMPONENT STATUS REPORT		LEVEL 5		PROJECT DESIM	
	PHASE - REQUIREMENTS		ALL PROGRAMMERS			
	ACTIVITY	HOURS				
	CREATE				0 (0%)	
	READ				0 (0%)	
	REVIEW				279 (74%)	
	DESREV	8 (2%)				
	ACCTEST	178 (47%)				
	\$\$DEMO	0 (0%)				
	\$\$ROSM	29 (7%)				
	\$\$RREQS	64 (17%)				
	UNIT TEST				0 (0%)	
	INTEGRATION TEST				0 (0%)	
	MEETINGS				82 (22%)	
	MEETINGS	2 (0%)				
	\$\$ANALYT	80 (21%)				
	TRAINING				6 (1%)	
	TRAINING	6 (1%)				
	TRAVEL				0 (0%)	
	TRAVEL	0 (0%)				
	MANAGEMENT				0 (0%)	
	MANAGEMENT	0 (0%)				
	MAINTENANCE				0 (0%)	
	MAINTENANCE	0 (0%)				
	LIBRARIN				0 (0%)	
	OTHER				0 (0%)	
	OTHER	0 (0%)				
	COMP TECH	0 (0%)				
	\$\$TOOL	0 (0%)				
	DOCUMENTATION				4 (1%)	
	FORMS	4 (1%)				
	SECRETARY				0 (0%)	
	TECHPUBS	0 (0%)				
	\$\$QUESTS	0 (0%)				
	UNKNOWN				0 (0%)	
	TOTAL				373	

Figure 2-3. CS Summary Report (2 of 11)

COMPONENT STATUS REPORT		LEVEL 5	PROJECT DESIM	
PHASE - DESIGN		ALL PROGRAMMERS		
ACTIVITY	HOURS			
CREATE	947 (80%)	947 (80%)		
DESCREAT				
READ	67 (5%)	67 (5%)		
DESEAD				
REVIEW	68 (5%)	68 (5%)		
DESREV	33 (2%)	33 (2%)		
\$\$CONSUL	3 (0%)	3 (0%)		
\$\$INTERF	32 (2%)	32 (2%)		
UNIT TEST				
INTEGRATION TEST				
MEETINGS				
MEETINGS	4 (0%)	4 (0%)		
\$\$STATUS	0 (0%)	0 (0%)		
TRAINING				
TRAINING	25 (2%)	25 (2%)		
\$\$MANUAL	0 (0%)	0 (0%)		
\$\$PSTDS	16 (1%)	16 (1%)		
TRAVEL				
TRAVEL	2 (0%)	2 (0%)		
MANAGEMENT				
MANAGEMENT	0 (0%)	0 (0%)		
MAINTENANCE				
LIBRARIN	0 (0%)	0 (0%)		
\$\$DATSET	2 (0%)	2 (0%)		
OTHER				
OTHER	0 (0%)	0 (0%)		
COMP TECH	0 (0%)	0 (0%)		
DOCUMENTATION				
DOCUMENTATION	41 (3%)	41 (3%)		
FORMS				
SECRETARY	9 (0%)	9 (0%)		
SECRETARY	0 (0%)	0 (0%)		
TECHPUBS	0 (0%)	0 (0%)		
\$\$MEMO				
\$\$NOTEBK	21 (1%)	21 (1%)		
\$\$MONTHLY	10 (0%)	10 (0%)		
\$\$WEEKLY	1 (0%)	1 (0%)		
\$\$PAPERW	0 (0%)	0 (0%)		
\$\$PLANS	0 (0%)	0 (0%)		
\$\$SCHEDL	0 (0%)	0 (0%)		
\$\$PRESNT	0 (0%)	0 (0%)		
\$\$XEROX	0 (0%)	0 (0%)		
UNKNOWN				
UNKNOWN	0 (0%)	0 (0%)		
TOTAL		1176		

Figure 2-3. CS Summary Report (3 of 11)

COMPONENT STATUS REPORT		LEVEL 5	PROJECT DESIM	
PHASE - TEST		ALL PROGRAMMERS		
ACTIVITY	HOURS			
CREATE			0 (0%)	
READ			0 (0%)	
REVIEW			112 (15%)	
REVTEST	45 (6%)			
\$\$\$CONSUL	10 (1%)			
\$\$\$INTERF	57 (8%)			
UNIT TEST			170 (23%)	
UNITTEST	170 (23%)			
INTEGRATION TEST			311 (43%)	
INTTEST	281 (39%)			
\$\$\$BLKTIM	0 (0%)			
\$\$\$SYSTST	30 (4%)			
MEETINGS			3 (0%)	
\$\$\$STATUS	2 (0%)			
TRAINING	0 (0%)		22 (3%)	
\$\$\$MANUAL	4 (0%)			
\$\$\$RSTDS	18 (2%)			
TRAVEL	0 (0%)		0 (0%)	
TRAVEL	0 (0%)			
MANAGEMENT			0 (0%)	
MANAGEMENT	0 (0%)			
MAINTENANCE			2 (0%)	
LIBRARIN	0 (0%)			
\$\$\$DATSET	2 (0%)			
OTHER			19 (2%)	
OTHER	0 (0%)			
COMP TECH	0 (0%)			
\$\$\$DATGEN	19 (2%)			
DOCUMENTATION			67 (9%)	
FORMS	32 (4%)			
SECRETARY	0 (0%)			
TECHPLBS	0 (0%)			
\$\$\$MEMO	0 (0%)			
\$\$\$MONTHLY	15 (2%)			
\$\$\$WEEKLY	0 (0%)			
\$\$\$PAPERW	0 (0%)			
\$\$\$TESTPL	0 (0%)			
\$\$\$PLANS	14 (1%)			
\$\$\$SCHEDL	1 (0%)			
\$\$\$PRESNT	0 (0%)			
\$\$\$XEROX	2 (0%)			
UNKNOWN			0 (0%)	
TOTAL		709		

Figure 2-3. CS Summary Report (5 of 11)

09-JUN-82 10:10:12	COMPONENT STATUS REPORT		LEVEL 5		PROJECT DESIM	
	PHASE - OTHER		ALL PROGRAMMERS			
	ACTIVITY	HOURS				
	CREATE	0 (0%)				
	READ	0 (0%)				
	REVIEW	19 (9%)				
	REVTEST	0 (0%)				
	\$\$\$CONSUL	0 (0%)				
	\$\$\$INTERF	19 (9%)				
	UNIT TEST	0 (0%)				
	INTEGRATION TEST	0 (0%)				
	MEETINGS	5 (2%)				
	MEETINGS	5 (2%)				
	\$\$\$STATUS	0 (0%)				
	TRAINING	0 (0%)				
	TRAINING	10 (4%)				
	\$\$\$MANUAL	0 (0%)				
	\$\$\$RSTDS	0 (0%)				
	TRAVEL	1 (0%)				
	TRAVEL	1 (0%)				
	MANAGEMENT	0 (0%)				
	MANAGEMENT	0 (0%)				
	MAINTENANCE	0 (0%)				
	LIBRARIN	0 (0%)				
	\$\$\$DATSET	0 (0%)				
	OTHER	71 (33%)				
	OTHER	0 (0%)				
	COMP TECH	0 (0%)				
	\$\$\$DATGEN	59 (28%)				
	\$\$\$SIM	0 (0%)				
	\$\$\$SEMINR	11 (5%)				
	DOCUMENTATION	100 (47%)				
	FORMS	5 (2%)				
	USERGUID	7 (3%)				
	SYSDSCR	0 (0%)				
	SECRETARY	0 (0%)				
	TECHPUBS	0 (0%)				
	\$\$\$MEMO	11 (5%)				
	\$\$\$NTHLY	4 (1%)				
	\$\$\$WEEKLY	0 (0%)				
	\$\$\$PAPERW	0 (0%)				
	\$\$\$PLANS	0 (0%)				
	\$\$\$IMPLAN	8 (3%)				
	\$\$\$SCHEDL	0 (0%)				
	\$\$\$PRESNT	0 (0%)				
	\$\$\$SYSTAP	64 (30%)				
	\$\$\$XEROX	1 (0%)				
	UNKNOWN	4 (1%)				
	TOTAL	211				

Figure 2-3. CS Summary Report (6 of 11)

COMPONENT STATUS REPORT

LEVEL 5

ALL PROGRAMMERS

PHASE - TOTAL

ACTIVITY	HOURS
CREATE	1756 (51%)
REQ	0 (0%)
DESCREAT	947 (27%)
CODE	709 (20%)
\$\$KEYPCH	100 (2%)
READ	93 (2%)
REQ	0 (0%)
DESREAD	67 (1%)
CODEREAD	26 (0%)
REVIEW	524 (15%)
REQ	0 (0%)
DESREV	41 (1%)
CODEREV	2 (0%)
REVTEST	45 (1%)
ACCTEST	178 (5%)
\$\$DEMO	0 (0%)
\$\$ROSW	29 (0%)
\$\$CONSUL	15 (0%)
\$\$INTERF	150 (4%)
\$\$RREOS	64 (1%)
UNIT TEST	170 (4%)
UNITTEST	170 (4%)
INTEGRATION TEST	311 (9%)
INTGTEST	281 (8%)
\$\$BLKTIM	0 (0%)
\$\$SYSTST	30 (0%)
MEETINGS	15 (0%)
\$\$ANALYT	80 (2%)
\$\$STATUS	2 (0%)
TRAINING	85 (2%)
TRAINING	37 (1%)
\$\$MANUAL	30 (0%)
\$\$RSTD	18 (0%)
TRAVEL	6 (0%)
TRAVEL	6 (0%)
MANAGEMENT	0 (0%)
MANAGEMENT	0 (0%)
MAINTENANCE	9 (0%)
LIBRARIN	0 (0%)
\$\$DATSET	9 (0%)
OTHER	90 (2%)
OTHER	0 (0%)
COMP TECH	0 (0%)
\$\$TOOL	0 (0%)
\$\$DATGEN	78 (2%)
\$\$SIM	0 (0%)
\$\$SEMINR	11 (0%)
DOCUMENTATION	254 (7%)
FORMS	81 (2%)
USERGUID	7 (0%)
SYSDSCR	0 (0%)
SECRETARY	0 (0%)
TECHPUBS	0 (0%)
\$\$QUESTS	0 (0%)
\$\$MEMO	13 (0%)
\$\$NOTEBK	21 (0%)
\$\$MONTHLY	36 (1%)
\$\$WEEKLY	1 (0%)

Figure 2-3. CS Summary Report (7 of 11)

\$\$PAPERW	0 (0%)
\$\$PLANS	0 (0%)
\$\$TESTPL	14 (0%)
\$\$IMPLAN	8 (0%)
\$\$SCHEDL	4 (0%)
\$\$PRESENT	0 (0%)
\$\$SYSTAP	64 (1%)
\$\$YEROX	4 (0%)
UNKNOWN	10 (0%)
TOTAL	3407

Figure 2-3. CS Summary Report (8 of 11)

COMPONENT STATUS REPORT										LEVEL 5		PROJECT DESIG	
ALL PROGRAMMERS													
COMPONENT	TOTAL	DESIGN			TOTAL	CODE			TEST				
		CREA	READ	REV		CODE	READ	REV	UNIT	INTG	REV	TOTAL	
1 \$DESIM	127	0	5	32	37	0	0	0	0	45	45	90	
2 \$SFTIO	4	4	0	0	4	0	0	0	0	0	0	0	
3 AT	15	0	0	0	0	0	0	0	0	15	0	15	
4 ATATTBY	13	7	0	0	7	6	0	0	6	0	0	0	
5 ATATTIS	13	7	0	0	7	6	0	0	6	0	0	0	
6 ATATTSPA	12	6	0	0	6	6	0	0	6	0	0	0	
7 ATATTSPB	12	6	0	0	6	6	0	0	6	0	0	0	
8 ATATTSPN	25	19	0	0	19	6	0	0	6	0	0	0	
9 CMDEANAM	2	1	0	0	1	1	0	0	1	0	0	0	
10 CMDEBNAM	2	1	0	0	1	1	0	0	1	0	0	0	
11 CMDENAME	1	1	0	0	1	0	0	0	0	0	0	0	
12 CMTRUCOM	2	0	0	0	0	2	0	0	2	0	0	0	
13 CMWRKCOM	4	0	0	0	0	4	0	0	4	0	0	0	
14 DEBASELD	37	37	0	0	37	0	0	0	0	0	0	0	
15 DETOPLV	173	168	0	5	173	0	0	0	0	0	0	0	
16 DR	13	0	0	0	0	0	0	0	0	13	0	13	
17 DRDEANAM	31	22	0	0	22	9	0	0	9	0	0	0	
18 DRDEBNAM	33	24	0	0	24	9	0	0	9	0	0	0	
19 DRDENAME	13	8	0	0	8	5	0	0	5	0	0	0	
20 DRDESIM	15	9	0	4	13	2	0	0	2	0	0	0	
21 DRTRUCOM	10	0	0	0	0	10	0	0	10	0	0	0	
22 DRWRKCOM	13	0	0	0	0	13	0	0	13	0	0	0	
23 EN	43	0	0	0	0	4	0	0	4	27	0	39	
24 ENAZDSA	16	1	0	0	1	11	0	0	11	0	0	4	
25 ENAZDSB	9	0	0	0	0	7	2	0	9	0	0	0	
26 ENADDSB	6	0	0	0	0	5	1	0	6	0	0	0	
27 ENRGDAT	31	23	0	0	23	4	0	0	4	0	0	4	
28 ENTPOUTA	24	2	0	0	2	12	4	2	18	4	0	4	
29 ENTPOUTB	17	0	0	0	0	15	2	0	17	0	0	0	
30 IN	12	0	0	0	0	0	0	0	0	12	0	12	
31 INSIMIN	23	15	0	0	15	8	0	0	8	0	0	0	
32 INSIMINA	9	0	3	0	3	6	0	0	6	0	0	0	
33 INSIMINB	9	0	3	0	3	6	0	0	6	0	0	0	
34 INVALINA	12	6	0	0	6	6	0	0	6	0	0	0	
35 INVALINB	12	6	0	0	6	6	0	0	6	0	0	0	
36 INWRITNA	53	15	0	0	15	38	0	0	38	0	0	0	
37 INWRITNB	40	8	0	0	8	32	0	0	32	0	0	0	
38 JCL	43	16	0	0	16	27	0	0	27	0	0	0	
39 NLDEANAM	1	1	0	0	1	0	0	0	0	0	0	0	
40 NLDEBNAM	1	1	0	0	1	0	0	0	0	0	0	0	

Figure 2-3. CS Summary Report (9 of 11)

ALL PROGRAMMERS

COMPONENT	TOTAL	DESIGN			CODE			TEST					
		CREA	READ	REV	TOTAL	CODE	READ	REV	TOTAL	UNIT	INTG	REV	TOTAL
41 NLDNAME	1	1	0	0	1	0	0	0	0	0	0	0	0
42 OT	36	0	0	0	0	0	0	0	0	36	0	0	36
43 OTPRINTA	53	8	0	0	8	37	0	0	37	8	0	0	8
44 OTPRINTB	38	6	0	0	6	28	0	0	28	4	0	0	4
45 OTPRINTC	25	13	0	0	13	8	0	0	8	4	0	0	4
46 RD	13	0	0	0	0	1	0	0	1	12	0	0	12
47 RORDAZIA	10	4	0	0	4	6	0	0	6	0	0	0	0
48 RORDAZIB	7	2	0	0	2	5	0	0	5	0	0	0	0
49 RORDAZIS	7	2	0	0	2	5	0	0	5	0	0	0	0
50 RORDIPOA	6	2	0	0	2	4	0	0	4	0	0	0	0
51 RORDTPOB	8	2	0	0	2	6	0	0	6	0	0	0	0
52 SN	49	0	0	0	0	10	0	0	10	12	27	0	39
53 SNAOSLOS	11	4	0	0	4	3	0	0	3	4	0	0	4
54 SNBS	65	20	0	0	20	32	2	0	34	11	0	0	11
55 SNCQ2HGT	2	2	0	0	2	0	0	0	0	0	0	0	0
56 SNDSAI	52	16	0	0	16	28	0	0	28	8	0	0	8
57 SNFSS	16	8	0	0	8	0	0	0	0	8	0	0	8
58 SNGROERA	10	5	0	0	5	4	0	0	4	0	0	0	0
59 SNGROERB	12	5	0	0	5	6	0	0	6	0	0	0	0
60 SNOIDEA	15	8	0	0	8	6	0	0	6	0	0	0	0
61 SNOIDEB	12	5	0	0	5	6	0	0	6	0	0	0	0
62 SNOIDSEA	10	6	0	0	6	3	0	0	3	0	0	0	0
63 SNOIDSEB	8	4	0	0	4	3	0	0	3	0	0	0	0
64 SNPHITER	11	4	0	0	4	3	0	0	3	4	0	0	4
65 SENSEOR	44	28	0	0	28	12	0	0	12	4	0	0	4
66 SNMHS	54	20	0	0	20	24	2	0	26	8	0	0	8
67 SYSTEDE	90	77	13	0	90	0	0	0	0	0	0	0	0
68 TM	139	0	0	0	0	0	0	0	0	139	0	0	139
69 TMBHSTMH	17	4	0	0	4	6	3	0	9	4	0	0	4
70 TMBHSTMN	17	4	0	0	4	6	3	0	9	4	0	0	4
71 TMCETIMH	19	6	0	0	6	6	3	0	9	4	0	0	4
72 TMCETIMN	20	7	0	0	7	4	3	0	7	6	0	0	6
73 TMCNVRTA	6	1	0	0	1	5	0	0	5	0	0	0	0
74 TMCNVRTB	3	0	0	0	0	3	0	0	3	0	0	0	0
75 TMCVTFSS	36	18	0	0	18	18	0	0	18	0	0	0	0
76 TMCVTSUN	28	19	0	0	19	8	0	0	8	1	0	0	1
77 TMCVTHS	17	8	0	0	8	8	0	0	8	0	0	0	0
78 TMDROP	4	0	0	0	0	4	0	0	4	0	0	0	0
79 TMFILLIP	8	0	4	0	4	4	0	0	4	0	0	0	0
80 TMFILLPH	8	0	4	0	4	4	0	0	4	0	0	0	0

Figure 2-3. CS Summary Report (10 of 11)

09-JUN-82 10:12:08		COMPONENT STATUS REPORT					LEVEL 5		PROJECT DESIGN				
ALL PROGRAMMERS													
COMPONENT	TOTAL	DESIGN			TOTAL	CODE			TEST				
		CREA	READ	REV		CODE	READ	REV	UNIT	INTG	REV	TOTAL	
81 TMFILLPM	8	0	4	0	4	4	0	0	0	0	0	0	
82 TMFLIPPH	8	2	0	0	2	6	0	0	0	0	0	0	
83 TMFLIPPM	9	2	0	0	2	7	0	0	0	0	0	0	
84 TMGRYCOD	15	10	0	0	10	3	1	0	4	1	0	1	
85 TMIPDHD	4	0	0	0	0	4	0	0	0	0	0	0	
86 TMMINFRA	9	3	0	0	3	6	0	0	0	0	0	0	
87 TMMINFRB	8	3	0	0	3	5	0	0	0	0	0	0	
88 TMPACKTA	18	12	0	0	12	6	0	0	0	0	0	0	
89 TMPACKTB	2	0	0	0	0	2	0	0	0	0	0	0	
90 TMPIPDCA	8	3	0	0	3	5	0	0	0	0	0	0	
91 TMPIPDDB	5	0	0	0	0	5	0	0	0	0	0	0	
92 TMPOCCHA	11	3	3	0	6	5	0	0	0	0	0	0	
93 TMPOCCHB	7	2	0	0	2	5	0	0	0	0	0	0	
94 TMPOCCHD	7	0	3	0	3	4	0	0	0	0	0	0	
95 TMTAGERR	10	2	0	0	2	8	0	0	0	0	0	0	
96 TMTIMEA	16	8	0	0	8	8	0	0	0	0	0	0	
97 TMTIMEB	14	6	0	0	6	8	0	0	0	0	0	0	
98 TMTIMEATA	43	31	0	0	31	12	0	0	12	0	0	0	
99 TMTIMEHEAD	8	4	0	0	4	4	0	0	4	0	0	0	
100 USERGUID	141	116	25	0	141	0	0	0	0	0	0	0	
101 UTBITD4	4	4	0	0	4	0	0	0	0	0	0	0	
102 UTEULYXZ	4	0	0	0	0	4	0	0	4	0	0	0	
103 UTTCONDD	6	0	0	0	0	6	0	0	6	0	0	0	
TOTAL	2289	947	67	41	1056	709	26	2	737	170	281	45	496

Figure 2-3. CS Summary Report (11 of 11)

2.2 PROFILE REPORT PROGRAM (PF)

2.2.1 INTRODUCTION

2.2.1.1 Function and Purpose

The Profile Report Program (PF) (or Generalized Response Accumulation Program) produces a cross-tabulation (or profile) report of the entries in various fields of a selected SEL data base file. The program supports the Component Information File (CIF), the Change Report Form (CRF) file, the Component Summary Form (CSF) file, and the Run Analysis Form (RAF) file for any given project.

The user defines the fields on the file to be tabulated; the set of possible entries or ranges of entries in these fields form the rows of the cross-tabulation matrix. The user also defines a single field on the file as the breakdown variable; the set of possible entries (or ranges of entries) in this field forms the columns of the cross-tabulation matrix. The counts contained in the cross-tabulation matrix are accumulated for all records in the selected SEL data base file. Samples of the profile reports produced by the PF program for each of the four file types are given in Section 2.2.4.

2.2.1.2 System Resources

The PF program is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a lineprinter, and a disk. The terminal acts both as an input and an output message device when the user interacts with the program. Input to the program consists of user-entered options and the selected SEL data base files. The SEL data base is permanently stored on disk and is on line to the PDP-11/70. The output reports are stored on disk by the PF program and may be directed to the lineprinter by the user after the program terminates.

2.2.1.3 Approximate Run Time

The normal execution time of the PF program varies for different file types. The approximate execution times (wall-clock times) for the average and extreme cases for one type of breakdown category for each type of file are listed below.

Average Case				
<u>File Type</u>	<u>Breakdown Category</u>	<u>Project</u>	<u>Execution Time (Minutes)</u>	<u>Number of Records</u>
CIF	7	DECAP	4	278
CRF	11	ISEEC	3	240
CSF	10	AEM	3.5	225
RAF	8	SEASAT	4	1312

Extreme Case				
<u>File Type</u>	<u>Breakdown Category</u>	<u>Project</u>	<u>Execution Time (Minutes)</u>	<u>Number of Records</u>
CIF	7	SEASAT	8	944
CRF	11	DEA	9	964
CSF	10	SMM	9.5	865
RAF	8	DEB	39	7101

2.2.1.4 Error Messages

The PF program produces the following error messages (where the Xs are replaced by the actual values):

COLUMN INFORMATION FILE IS INCOMPLETE

INPUT LINE INCORRECT:

XX

FILE TYPE X NOT FOUND

ERROR XXXXXX IN READING CIF RECORD

ERROR XXXXXX IN READING CRF RECORD

RDCRF - DECODE ERROR, FORMNO = XXXXXX

RDCSF - DECODE ERROR, FORMNO = XXXXXX, PROGNO = XXXXXX

ERROR XXXXXX IN READING CSF RECORD

PHASE DATES UNAVAILABLE
 ERROR XXXXXX IN READING HEADER RECORD
 PROJECT XXXXXXXX NOT FOUND ON HEADER FILE
 ERROR IN READING ESTIMATED STATISTICS RECORD - IERR =
 XXXXXX
 PROJECT XXXXXXXX NOT FOUND ON EST. STAT. FILE
 ERROR XXXXXX IN READING RAF RECORD
 (DOPENR) OPEN ERROR ON FILE: XXXXXXXXXXXXXXXXXXXXXXXXXX

2.2.1.5 Restrictions/Relation to Other Software

For certain choices of file type and breakdown category, the PF program produces a plot file for subsequent use by the Graphing Program (GQ) (Section 2.7). This file is described in Section 2.2.3.

2.2.2 PROGRAM INVOCATION

Before invoking the PF program, the user must examine the PF description files for the desired file type. These files describe the fields on the file to be used for the rows of the cross-tabulation matrix of the selected PF report and must be present before the PF program can be executed. The files are located under [204,6]PFNL.XXX, where XXX is the three-letter file type of interest (CIF, CRF, CSF, or RAF). Listings of the current versions of these files are shown in Figures 2-4 through 2-7.

The PF description file contains three types of records: comment records, field description records, and category description records. Comment records are identified by a C in column 1 and are ignored by the PF program. A field description record must be present for each field of the selected file type that is to appear in the rows of the profile report. Columns 2 and 3 of these records contain the item number of the field in the record (as it appears in Appendix A of Reference 1). Column 4 contains a G if a plot file for use by the GQ program may be produced for the field.

PAGE 1

Figure 2-4. PF Description File for CIF Profile Report
([204,6]PFNL.CIF)

C		1
C	@PFNL.CRF	2
C		3
C	THIS IS A CRF PROFILE REPORT SETUP	4
C		5
	CHANGE REPORT FILE REPORT	6
	11G TYPE OF CHANGE	7
	ERROR CORR	8
	PLANNED ENH	9
	REQ CHANGE	10
	IMPR CLARITY	11
	AID USER	12
	ADD DEBUG	13
	OTHER	14
	NO RESPONSE	15
C		16
	5G*NUMBER OF COMP CHANGED	17
	0 0 1 2 4 32000	18
C		19
	6 *NUMBER OF COMP EXAMINED	20
	0 0 1 4 10 32000	21
C		22
	7 MORE THAN 1 COMP AFFECTED	23
	YES	24
	NO	25
	NO RESPONSE	26
C		27
	10G EFFORT FOR CHANGE	28
	< 1 HOUR	29
	< 1 DAY	30
	< 3 DAYS	31
	> 3 DAYS	32
	NO RESPONSE	33
C		34
	13G TYPE OF ERROR	35
	REQ WRONG	36
	SPECS WRONG	37
	DESIGN ERROR	38
	ENV MISUNDST	39
	LANGUAGE ERR	40
	CLERICAL ERR	41
	OTHER	42
	NO RESPONSE	43
C		44
	14G WHEN ERROR ENTERED SYSTEM	45
	REQ	46
	FUNCT SPECS	47
	DESIGN	48
	CODE/TEST	49
	OTHER	50
	CAN'T TELL	51
	NO RESPONSE	52
C		53
	15 DATA STRUCTURE ERROR	54
	YES	55

Figure 2-5. PF Description File for CRF Profile Report
 ([204,6]PFNL.CRF) (1 of 2)

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PFNL.CRF

PAGE 2

	NO	56
C		57
16	CONTROL LOGIC ERROR	58
	YES	59
	NO	60
C		61
18	TIME TO ISOLATE ERROR	62
	< 1 HOUR	63
	< 1 DAY	64
	> 1 DAY	65
	NEVER FOUND	66
	NO RESPONSE	67
C		68
19	WORKAROUND USED	69
	YES	70
	NO	71
	NO RESPONSE	72
C		73
20	RELATED TO OLD CHANGE	74
	YES	75
	NO	76
	NO RESPONSE	77

Figure 2-5. PF Description File for CRF Profile Report
([204,6]PFNL.CRF) (2 of 2)

C		1
C	@PFNL.CSF	2
C		3
C	THIS IS A CSF PROFILE REPORT SETUP	4
C		5
	COMPONENT SUMMARY FILE REPORT	6
	10 TYPE OF SOFTWARE	7
	I/O PROC	8
	ALGORITHMIC	9
	LOGIC	10
	SYS RELATED	11
	DATA/COMMON	12
	OTHER	13
	NO RESPONSE	14
C		15
	19 TYPE OF ADDITION	16
	ERROR CORR	17
	PLANNED ENH	18
	REQ CHANGE	19
	IMPR CLARITY	20
	IMPR USER SV	21
	UTIL FOR DEV	22
C	OPTIMIZATION	23
C	ENV CHANGE	24
	OTHER	25
	NO RESPONSE	26
C		27
	24 LANGUAGE	28
	FORTRAN	29
	ASSEMBLY	30
	NO RESPONSE	31
C		32
	06 STAGE	33
	NEW	34
	UNDER DEV	35
	COMPLETED	36
	NO RESPONSE	37
C		38
	28 FORM OF SPECIFICATION	39
	FUNCTIONAL	40
	PROCEDURAL	41
	ENGLISH	42
	FORMAL	43
	OTHER	44
	NO RESPONSE	45
C		46
	8 PRECISION OF SPEC	47
	IMPRECISE	48
	PRECISE	49
	VERY PRECISE	50
	NO RESPONSE	51
C		52
	9 COMPLEXITY	53
	EASY	54
	MODERATE	55

Figure 2-6. PF Description File for CSF Profile Report
 ([204,6]PFNL.CSF) (1 of 2)

	HARD	56
C		57
15	*NUMBER OF SOURCE LINES	58
C		59
C	123456 23456 23456 23456 23456 23456 23456	60
	1 50 100 200 400 32000 0	61
C		62
11	*PERCENT ASSIGNMENT STMTS	63
	0 0 40 70 100 0	64
C		65
29	CONSTRAINT PRESENT	66
	YES	67
	NO	68
C		69
17	INDEPENDENT OF EXIST S/W	70
	YES	71
	NO	72
	NO RESPONSE	73
C		74
18	RELATION TO S/W (IF DEP)	75
	LOWER LEVEL	76
	DRIVER	77
	REDESIGN	78
	RENAME	79
	REGROUPING	80
	OTHER	81
	NO RESPONSE	82
C		83
20	*# COMPONENTS CALLED	84
	0 0 1 4 32000	85
C		86
21	*# COMPONENTS CALLING THIS ONE	87
	0 0 1 4 32000	88
C		89
22	*# SHARED COMPONENTS	90
	0 0 1 4 32000	91
C		92
23	*# DESCENDENT COMPONENTS	93
	0 0 1 4 32000	94
C		95
30	*ESTIMATED # RUNS	96
	0 0 5 20 32000	97
C		98
33	*EST COMPUTER TIME (MIN)	99
	0 0 5 20 32000	100
C		101
36	*ESTIMATED EFFORT (HOURS)	102
	0 0 20 80 200 400 32000	103

Figure 2-6. PF Description File for CSF Profile Report
 ([204,6]PFNL.CSF) (2 of 2)

C		1
C	@PFNL.RAF	2
C		3
C	THIS IS A RAF PROFILE REPORT SETUP	4
C		5
	RUN ANALYSIS REPORT (RAF)	6
08	RUN PURPOSE	7
	UNIT TEST	8
	SYSTEM TEST	9
	BENCHMARK	10
	MAINT/UTIL	11
	COMPILE/LINK	12
	DEBUG RUN	13
	OTHER	14
	NO RESPONSE	15
C		16
13	RUN RESULT	17
	GOOD RUN	18
	SETUP ERROR	19
	SYSTEM ERROR	20
	PROG ERROR	21
	NO RESPONSE	22
C		23
12	RUN MET OBJECTIVES	24
	YES	25
	NO	26
	NO RESPONSE	27
C		28
9	NUMBER OF COMPONENTS TESTED	29
	1	30
	2	31
	3	32
	4	33
	5	34
	6 OR MORE	35
	NO RESPONSE	36
C		37
6	COMPUTER	38
	IBM 360	39
	PDP 11	40
	NO RESPONSE	41
C		42
7	INTERACTIVE RUN	43
	YES	44
	NO	45
C		46
11	FIRST RUN	47
	YES	48
	NO	49

Figure 2-7. PF Description File for RAF Profile Report
 ([204,6]PFNL.RAF)

Column 5 contains an * if the breakdown categories for that field are ranges of values instead of single values. The name of the field to be used in the profile report begins in column 6.

The category description records for a given field follow the field description records; there are two types of category description records. For categories containing a single value, the name of the value to be used in the profile report is given beginning in column 8. In this case, there are multiple category description records for the field, one for each possible value of an entry in that field (given in order as they appear in Appendix A of Reference 1). For categories containing a range of values, a single category description record follows the field description record, which contains an * in column 5. The category description record in this case contains the values of the boundaries of the ranges in the 2X, 8I6 format. Eight boundaries are given, defining seven ranges of values.

Any of the fields for which a field description record is present in the PF description file for the desired file type may be specified as the breakdown variable (that is, the field to be used for the columns of the cross-tabulation matrix). The user must determine the item number of the field to be specified as the breakdown variable; this is the number found in columns 2 and 3 of the corresponding field description record. The PF description file for the desired file type needs to be changed only if the user wishes to specify a different set of fields and categories for the selected profile report.

After determining the number of the breakdown variable for the selected profile report, the user invokes the PF program by logging onto the UIC and entering the following command on the user's terminal:

```
RUN [204,5]PF
```

2.2.3 PROGRAM OPERATION

After invoking the PF program, the user will be prompted for the project name, report type, and breakdown category. The user first enters the project name of interest. There are four report types, corresponding to the four types of SEL data base files supported by the PF program. Each report type is represented by a letter as shown below.

<u>Report Type</u>	<u>Data Base File</u>
I	CIF
H	CRF
M	CSF
A	RAF

When prompted for the report type, the user enters the letter representing the selected file type. When prompted for the breakdown category, the user enters the breakdown variable number obtained from the appropriate PF description file (Section 2.2.2).

When the report is completed, a message notifies the user, and the report file name is displayed on the terminal. The file name of the report has the following format:

XXXXXXXX.YNN, where XXXXXXXX is the project name, Y is the report type, and NN is the breakdown category selected for the given report type. For example, if a user selects the CIF profile report for project DESIM subdivided by origin (7), a report file DESIM.I7 is produced.

To terminate this program, the user enters ^Z (control Z) in response to any prompt. After exiting from the program, the user may print the output report by using the PRINT command; for example

```
PRINT DESIM.I7
```

If the field description record for the selected breakdown variable in the PF description file for the selected file

type contains a G in column 4, a plot file will be generated for subsequent use by the GQ program. The plot file name has the following format: XXXXXXXX.NNY, where XXXXXXXX is the project name, NN is the breakdown category for the report type selected, and Y is the report type. For example, if the user selects the Change Report Form file (CRF) profile report for project DESIM using a breakdown variable type of change (11), plot file DESIM.11H will be produced. For the current PF description files (Figures 2-4 through 2-7), only file type CRF contains variables that will produce a plot file when selected as the breakdown variable. These breakdown variables are type of change, number of components changed, effort for change, type of error, and time when error entered the system.

2.2.4 SAMPLE OUTPUT

Four sample output reports are included here, one for each file type, as follows:

- CIF profile report--subdivided by origin for project DESIM (Figure 2-8)
- CRF profile report--subdivided by type of change for project DEA (Figure 2-9)
- CSF profile report--subdivided by type of software for project DESIM (Figure 2-10)
- RAF profile report--subdivided by run purpose for project DESIM (Figure 2-11)

The top of each report contains a brief summary of the overall statistics for the project. Included are the number of person-months, number of computer hours, number of computer runs, number of modules, number of source lines, number of changes, and phase dates for the project. These data are obtained from the EST and HDR files.

The remainder of the report contains the cross-tabulation matrix. The columns of the report represent the various categories of the breakdown variable; the last column represents the total. The first row gives the number of forms (or records) in the selected data base file. The remaining rows represent the entries or ranges of entries in fields of the selected data base file (as described in Section 2.2.2). The numbers in the body of the report give the number of forms (or records) in the selected data base file having the given entry in the given field, subdivided by the categories of the breakdown variable. The percentages given are calculated with respect to the total number of forms for each column.

COMPONENT INFORMATION FILE REPORT									
102 MODULES 15258 SOURCE LINES 255 CHANGES									
PHASES									
DESIGN CODE & UNIT TEST SYSTEM TEST ACCEPTANCE TEST CLEANUP									
START 79/10/ 1 80/ 4/12 80/ 8/30 80/ 9/27 80/10/25 80/11/29									
END									
PROJECT DESIM									
ORIGIN									
NEW SLIGHT EXTENSIVE OLD NO RESPONS TOTAL									
TOTAL FORMS	101	3	0	7	0	111			
ORIGIN									
NEW	101 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	101 (90%)			
SLIGHT	0 (0%)	3 (100%)	0 (0%)	0 (0%)	0 (0%)	3 (2%)			
EXTENSIVE	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)			
OLD	0 (0%)	0 (0%)	0 (0%)	7 (100%)	0 (0%)	7 (6%)			
NO RESPONSE	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)			
NUMBER OF EXEC STMTS									
1-50	47 (46%)	2 (66%)	0 (0%)	7 (100%)	0 (0%)	56 (50%)			
51-100	20 (19%)	1 (33%)	0 (0%)	0 (0%)	0 (0%)	21 (18%)			
101-150	11 (10%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	11 (9%)			
151-200	2 (1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (1%)			
201-250	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)			
251-300	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)			
301 OR MORE	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)			
MCCABE'S MEASURE									
1-5	41 (40%)	2 (66%)	0 (0%)	7 (100%)	0 (0%)	50 (45%)			
6-10	12 (11%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	12 (10%)			
11-15	14 (13%)	1 (33%)	0 (0%)	0 (0%)	0 (0%)	15 (13%)			
16-20	14 (13%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	14 (12%)			
21-25	3 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	3 (2%)			
26-30	5 (4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	5 (4%)			
31 OR MORE	12 (11%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	12 (10%)			
PANVALET LEVEL NUMBER									
1-2	64 (63%)	1 (33%)	0 (0%)	7 (100%)	0 (0%)	72 (64%)			
3-4	31 (30%)	2 (66%)	0 (0%)	0 (0%)	0 (0%)	33 (29%)			
5-6	5 (4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	5 (4%)			
7-8	1 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0%)			
9-10	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)			
11-12	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)			
13 OR MORE	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)			
# LINES (INCL COMMENTS)									
1-50	17 (16%)	0 (0%)	0 (0%)	4 (57%)	0 (0%)	21 (18%)			
51-100	19 (18%)	3 (100%)	0 (0%)	2 (28%)	0 (0%)	24 (21%)			
101-150	15 (14%)	0 (0%)	0 (0%)	1 (14%)	0 (0%)	16 (14%)			
151-200	12 (11%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	12 (10%)			
201-250	10 (9%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	10 (9%)			
251-300	13 (12%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	13 (11%)			
301 OR MORE	15 (14%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	15 (13%)			

Figure 2-8. CIF Profile Report Program (PF) Output (1 of 2)

COMPONENT INFORMATION FILE REPORT

09-JUN-82 09:36:47

	NEW	SLIGHT	EXTENSIVE	OLD	NO RESPNS	TOTAL
# LINES (NO COMMENTS)						
1- 50	37 (36%)	2 (66%)	0 (0%)	7 (100%)	0 (0%)	46 (41%)
51-100	24 (23%)	1 (33%)	0 (0%)	0 (0%)	0 (0%)	25 (22%)
101-150	19 (18%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	19 (17%)
151-200	10 (9%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	10 (9%)
201-250	5 (4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	5 (4%)
251-300	3 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	3 (2%)
301 OR MORE	3 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	3 (2%)
# I/O STATEMENTS						
0	31 (30%)	2 (68%)	0 (0%)	7 (100%)	0 (0%)	40 (36%)
1- 20	27 (26%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	27 (24%)
21- 40	13 (12%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	13 (11%)
41- 60	12 (11%)	1 (33%)	0 (0%)	0 (0%)	0 (0%)	13 (11%)
61- 80	5 (4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	5 (4%)
81-100	7 (6%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	7 (6%)
101 OR MORE	6 (5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	6 (5%)
# ASSIGNMENT STMTS						
0	39 (38%)	0 (0%)	0 (0%)	1 (14%)	0 (0%)	40 (36%)
1- 20	29 (28%)	2 (68%)	0 (0%)	6 (85%)	0 (0%)	37 (33%)
21- 40	19 (18%)	1 (33%)	0 (0%)	0 (0%)	0 (0%)	20 (18%)
41- 60	5 (4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	5 (4%)
61- 80	6 (5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	6 (5%)
81-100	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
101 OR MORE	3 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	3 (2%)

Figure 2-8. CIF Profile Report Program (PF) Output (2 of 2)

18-MAY-82 09:40:53			CHANGE REPORT FILE REPORT					PROJECT DE				
128 PERSON MONTHS 987 HOURS ON IBM 360 15017 RUNS (ACCOUNTING REPORT)			373 MODULES 67325 SOURCE LINES 2077 CHANGES			PHASES DESIGN CODE & UNIT TEST SYSTEM TEST ACCEPTANCE TEST CLEANUP			START 79/10/ 1 80/ 5/10 81/ 2/28 81/ 3/28 81/ 6/13 81/ 7/18		END 80/ 5/10 81/ 2/28 81/ 3/28 81/ 6/13 81/ 7/18	
TYPE OF CHANGE												
			ERROR CORR	PLANNED EN	REQ CHANGE	IMPR CLARIT	AID USER	ADD DEBUG	OTHER	NO RESPNS	TOTAL	
TOTAL FORMS			465	132	90	183	13	53	28	0	964	
TYPE OF CHANGE												
ERROR CORR			465 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	465 (100%)	
PLANNED ENH			0 (0%)	132 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	132 (100%)	
REQ CHANGE			0 (0%)	0 (0%)	90 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	90 (100%)	
IMPR CLARITY			0 (0%)	0 (0%)	0 (0%)	183 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	183 (100%)	
AID USER			0 (0%)	0 (0%)	0 (0%)	0 (0%)	13 (100%)	0 (0%)	0 (0%)	0 (0%)	13 (100%)	
ADD DEBUG			0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	53 (100%)	0 (0%)	0 (0%)	53 (100%)	
OTHER			0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	20 (71%)	0 (0%)	20 (71%)	
NO RESPONSE			0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	8 (28%)	0 (0%)	8 (28%)	
NUMBER OF COMP CHANGED												
0			1 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0%)	
1			332 (71%)	81 (61%)	46 (51%)	118 (64%)	6 (46%)	45 (84%)	14 (50%)	0 (0%)	642 (66%)	
2			67 (14%)	22 (16%)	18 (20%)	23 (12%)	0 (0%)	4 (7%)	6 (21%)	0 (0%)	140 (14%)	
3- 4			44 (9%)	17 (12%)	12 (13%)	22 (12%)	3 (23%)	3 (5%)	5 (17%)	0 (0%)	106 (10%)	
5 OR MORE			21 (4%)	12 (9%)	14 (15%)	20 (10%)	4 (30%)	1 (1%)	3 (10%)	0 (0%)	75 (7%)	
NUMBER OF COMP EXAMINED												
0			397 (85%)	122 (92%)	81 (90%)	177 (96%)	10 (76%)	48 (90%)	28 (100%)	0 (0%)	863 (89%)	
1			62 (13%)	9 (6%)	7 (7%)	3 (1%)	2 (15%)	5 (9%)	0 (0%)	0 (0%)	88 (9%)	
2- 4			6 (1%)	1 (0%)	1 (1%)	2 (1%)	1 (7%)	0 (0%)	0 (0%)	0 (0%)	11 (1%)	
5- 10			0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
11 OR MORE			0 (0%)	0 (0%)	0 (0%)	1 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0%)	
MORE THAN 1 COMP AFFECTED												
YES			0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
NO			465 (100%)	132 (100%)	90 (100%)	183 (100%)	13 (100%)	53 (100%)	28 (100%)	0 (0%)	964 (100%)	
NO RESPONSE			0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
EFFORT FOR CHANGE												
< 1 HOUR			239 (51%)	25 (18%)	23 (25%)	92 (50%)	4 (30%)	31 (58%)	5 (17%)	0 (0%)	419 (43%)	
< 1 DAY			176 (37%)	46 (34%)	33 (36%)	65 (35%)	6 (46%)	18 (33%)	16 (57%)	0 (0%)	360 (37%)	
< 3 DAYS			32 (6%)	25 (18%)	23 (25%)	14 (7%)	2 (15%)	2 (3%)	4 (14%)	0 (0%)	102 (10%)	
> 3 DAYS			16 (3%)	35 (26%)	11 (12%)	10 (5%)	1 (7%)	2 (3%)	1 (3%)	0 (0%)	76 (7%)	
NO RESPONSE			2 (0%)	1 (0%)	0 (0%)	2 (1%)	0 (0%)	0 (0%)	2 (7%)	0 (0%)	7 (0%)	

Figure 2-9. CRF Profile Report Program (PF) Output (1 of 2)

CHANGE REPORT FILE REPORT										PROJECT DE
18-MAY-82 09:41:03										

Figure 2-9. CRF Profile Report Program (PF) Output (2 of 2)

TYPE OF SOFTWARE									
102 MODULES									
15258 SOURCE LINES									
255 CHANGES									
32 PERSON MONTHS									
63 HOURS ON IBM 360									
1589 RUNS (ACCOUNTING REPORT)									
PHASES									
DESIGN									
CODE & UNIT TEST									
SYSTEM TEST									
ACCEPTANCE TEST									
CLEANUP									
START									
79/10/ 1									
80/ 4/12									
80/ 8/30									
80/ 9/27									
80/10/25									
80/11/29									
END									
TOTAL									
179									
OTHER									
6									
NO RESPONDS									
1									
TYPE OF SOFTWARE									
I/O PROC									
89									
LOGIC									
10									
SYS RELATE									
0									
DATA/COMMON									
28									
OTHER									
6									
NO RESPONSE									
1									
TYPE OF ADDITION									
ERROR CORR									
PLAIN/C ENH									
NEW LANGUAGE									
IMPR CLARITY									
IMPR USER SV									
UTIL FOR DEV									
OTHER									
NO RESPONSE									
179									
LANGUAGE									
FORTRAN									
ASSEMBLY									
NO RESPONSE									
175									
STAGE									
NEW									
UNDER DEV									
COMPLETED									
NO RESPONSE									
94									
FORM OF SPECIFICATION									
FUNCTIONAL									
PROCEDURAL									
ENGLISH									
FORMAL									
OTHER									
NO RESPONSE									
148									
PRECISION OF SPEC									
IMPRECISE									
PRECISE									
VERY PRECISE									
NO RESPONSE									
18									

Figure 2-10. CSF Profile Report Program (PF) Output (1 of 3)

	I/O PROC	ALGORITHM	LOGIC	SYS RELATE	DATA/COMMO	OTHER	NO RESPONSES	TOTAL
COMPLEXITY								
EASY	3 (6%)	8 (8%)	0 (0%)	0 (0%)	17 (60%)	6 (100%)	1 (100%)	35 (19%)
MODERATE	30 (66%)	65 (72%)	8 (80%)	0 (0%)	10 (35%)	0 (0%)	0 (0%)	113 (63%)
HARD	12 (26%)	15 (16%)	2 (20%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	29 (16%)
NUMBER OF SOURCE LINES								
1- 50	1 (2%)	6 (6%)	0 (0%)	0 (0%)	16 (57%)	6 (100%)	0 (0%)	29 (16%)
51-100	8 (17%)	20 (22%)	4 (40%)	0 (0%)	5 (17%)	0 (0%)	0 (0%)	37 (20%)
101-200	21 (46%)	56 (62%)	6 (60%)	0 (0%)	2 (7%)	0 (0%)	0 (0%)	85 (47%)
201-400	14 (31%)	7 (7%)	0 (0%)	0 (0%)	4 (14%)	0 (0%)	0 (0%)	25 (13%)
401 OR MORE	1 (2%)	0 (0%)	0 (0%)	0 (0%)	1 (3%)	0 (0%)	0 (0%)	2 (1%)
PERCENT ASSIGNMENT STMTS								
0	8 (17%)	0 (0%)	1 (10%)	0 (0%)	28 (100%)	6 (100%)	0 (0%)	43 (24%)
1- 40	13 (28%)	18 (20%)	9 (90%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	40 (22%)
41- 70	14 (31%)	63 (70%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	78 (43%)
71-100	10 (22%)	8 (8%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	18 (10%)
CONSTRAINT PRESENT								
YES	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
NO	45 (100%)	89 (100%)	10 (100%)	0 (0%)	28 (100%)	6 (100%)	1 (100%)	179 (100%)
INDEPENDENT OF EXIST S/W								
YES	42 (93%)	84 (94%)	9 (90%)	0 (0%)	27 (96%)	6 (100%)	1 (100%)	169 (94%)
NO	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
NO RESPONSE	3 (6%)	5 (5%)	1 (10%)	0 (0%)	1 (3%)	0 (0%)	0 (0%)	10 (5%)
RELATION TO S/W (IF DEP)								
LOWER LEVEL	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
DRIVER	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
REDESIGN	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
RENAME	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
REGROUPING	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
OTHER	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
NO RESPONSE	45 (100%)	89 (100%)	10 (100%)	0 (0%)	28 (100%)	6 (100%)	1 (100%)	179 (100%)
# COMPONENTS CALLED								
0	30 (66%)	48 (53%)	0 (0%)	0 (0%)	28 (100%)	6 (100%)	1 (100%)	113 (63%)
1	3 (6%)	13 (14%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	16 (8%)
2- 4	9 (20%)	26 (29%)	3 (30%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	38 (21%)
5 OR MORE	3 (6%)	2 (2%)	7 (70%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	12 (6%)
# COMPONENTS CALLING THIS								
0	0 (0%)	0 (0%)	2 (20%)	0 (0%)	28 (100%)	6 (100%)	0 (0%)	36 (20%)
1	42 (93%)	75 (84%)	8 (80%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	125 (69%)
2- 4	3 (6%)	13 (14%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	16 (8%)
5 OR MORE	0 (0%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	2 (1%)
# SHARED COMPONENTS								
0	9 (20%)	35 (39%)	0 (0%)	0 (0%)	14 (50%)	6 (100%)	1 (100%)	65 (36%)
1	3 (6%)	11 (12%)	0 (0%)	0 (0%)	14 (50%)	0 (0%)	0 (0%)	28 (15%)
2- 4	31 (68%)	41 (46%)	10 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	82 (45%)
5 OR MORE	2 (4%)	2 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	4 (2%)
# DESCENDENT COMPONENTS								
0	30 (66%)	49 (55%)	0 (0%)	0 (0%)	28 (100%)	6 (100%)	1 (100%)	114 (63%)
1	2 (4%)	15 (16%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	18 (10%)
2- 4	5 (11%)	19 (21%)	3 (30%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	27 (15%)
5 OR MORE	7 (15%)	6 (6%)	7 (70%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	20 (11%)

Figure 2-10. CSF Profile Report Program (PF) Output (2 of 3)

09-JUN-82 09:39:22		COMPONENT SUMMARY FILE REPORT					PROJECT DESIM	
		I/O PROC	ALGORITHM	LOGIC	SYS RELATE	DATA/COMMO	OTHER	NO RESPNS
ESTIMATED # RUNS								TOTAL
0	1 (2%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
1- 5	2 (4%)	3 (3%)	0 (0%)	0 (0%)	7 (25%)	0 (0%)	0 (0%)	12 (6%)
6- 20	30 (66%)	74 (83%)	9 (90%)	0 (0%)	18 (64%)	6 (100%)	0 (0%)	137 (78%)
21 OR MORE	12 (26%)	11 (12%)	1 (10%)	0 (0%)	3 (10%)	0 (0%)	0 (0%)	27 (15%)
EST COMPUTER TIME (MIN)								
0	3 (6%)	4 (4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
1- 5	8 (17%)	22 (24%)	2 (20%)	0 (0%)	7 (25%)	0 (0%)	0 (0%)	39 (21%)
6- 20	13 (28%)	46 (51%)	6 (60%)	0 (0%)	18 (64%)	6 (100%)	0 (0%)	89 (49%)
21 OR MORE	21 (46%)	17 (19%)	2 (20%)	0 (0%)	3 (10%)	0 (0%)	0 (0%)	43 (24%)
ESTIMATED EFFORT (HOURS)								
0	1 (2%)	4 (4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
1- 20	18 (40%)	29 (32%)	3 (30%)	0 (0%)	20 (71%)	6 (100%)	0 (0%)	76 (42%)
21- 80	23 (51%)	56 (62%)	7 (70%)	0 (0%)	8 (28%)	0 (0%)	0 (0%)	94 (52%)
81-200	3 (6%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	3 (1%)
201-400	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
401 OR MORE	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Figure 2-10. CSF Profile Report Program (PF) Output (3 of 3)

09-JUN-82 09:43:18			RUN ANALYSIS REPORT (RAF)				PROJECT DESIGN			
32 PERSON MONTHS 63 HOURS ON IBM 360 1589 RUNS (ACCOUNTING REPORT)			102 MODULES 15258 SOURCE LINES 255 CHANGES				PHASES			
							DESIGN			
							CODE & UNIT TEST			
							SYSTEM TEST			
							ACCEPTANCE TEST			
							CLEANUP			

2.3 RESOURCE UTILIZATION REPORT PROGRAM (RU)

2.3.1 INTRODUCTION

2.3.1.1 Function and Purpose

The Resource Utilization Report Program (RU) produces a three-page report of manpower and computer resource data subdivided by phase for a selected project. The first page of the report gives descriptive information concerning the remainder of the report. The second and third pages form the body of the report and are identical in format. The second page uses data on programmer hours from the RSF file for the selected project; the third page uses data on programmer hours from the CSR file for the selected project. Both pages use data on management and services hours from the RSF file. This report provides a useful comparison of similar data obtained from the two sources. Information on computer usage, size of source code, and number of changes is also given. A sample of the RU report is given in Section 2.3.4.

2.3.1.2 System Resources

The RU program is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a lineprinter, and a disk. The terminal acts both as an input and an output message device when the user interacts with the program. Input to the program consists of user-entered options and the selected SEL data base files. The SEL data base is permanently stored on disk and is on line to the PDP-11/70. The output report is stored on disk by the RU program and may be directed to the lineprinter by the user after the program terminates.

2.3.1.3 Approximate Run Time

The normal execution time of the RU program depends on the sizes of the CSR file and the RSF file for the given project.

The approximate execution times (wall-clock times) for several projects having files of different sizes are listed below.

<u>Project Name</u>	<u>Number of Records in CSR File</u>	<u>Number of Records in RSF File</u>	<u>Execution Time (Minutes)</u>
DESIM	722	93	4
AEM	1522	92	11
DEB	5160	216	23

2.3.1.4 Error Messages

The RU program provides the following error messages (where the Xs are replaced by the actual values):

```

CSR FILE NOT FOUND - XXXXXXXXXXXXXXXXXXXXXXXXXXXX
CSR DATA DEFAULTS TO 0
ERROR XXXXXX IN OPENING COMPONENT STATUS FILE -
XXXXXXXXXXXXXXXXXXXXXXXXXXXX. CSR DATA DEFAULTS TO 0
FILE NOT FOUND - XXXXXXXXXXXXXXXXXXXXXXXXXXXX
ESTIMATED STATISTICS DATA FOR PROJECT XXXXXXXX
UNAVAILABLE. DATA DEFAULTS TO ZERO
ERROR IN OPENING FILE XXXXXXXXXXXXXXXXXXXXXXXXXXXX
ERROR IN FORM XXXXXX SEQ = XX
ERROR XXXXXX IN READING RSF FILE

```

2.3.1.5 Restrictions/Relation to Other Software

The RU program produces four intermediate files for use by the Pie Chart Plotting Program, which is not currently implemented.

2.3.2 PROGRAM INVOCATION

The RU program obtains certain key parameters used in computations from the RU input parameters file. As a default, the RU program uses file [204,6]RU.NL. A listing of the current version of this file is shown in Figure 2-12. If the user wishes to use a different set of values for these

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RU.NL

PAGE 1

C			1
C	@RU.NL		2
C			3
C	THIS IS THE RU REPORT PROGRAM SETUP.		4
C			5
	20.00	COSTPERHOUR	6
	173.333	HOURSPERMONTH	7
	1000	LINEMULT	8
	1.50	MGMTWEIGHT	9
	.20	OLDFACTOR	10
	1.00	PROGWEIGHT	11
	.50	SERVWEIGHT	12
	1.00	TIME95T075	13

Figure 2-12. RU Input Parameters File ([204,6]RU.NL)

key input parameters, an RU input parameters file may be created under the UIC before the RU program is invoked.

The RU input parameters file contains two types of records: comment records and parameter records. Comment records are identified by a C in column 1 and are ignored by the RU program. The file must contain eight parameter records, each of which contains the value of one key parameter. The format and contents of the parameter records are described below.

<u>Parameter Record Number</u>	<u>Parameter Description</u>	<u>Format</u>
1	Cost per hour (dollars)	F8.1
2	Productive hours per month	F8.0
3	Source lines multiplier	I8
4	Management weight	F8.0
5	Old source code factor	F8.0
6	Programmer weight	F8.0
7	Services weight	F8.0
8	Factor for converting from IBM/360-95 to IBM/360-75 time	F8.0

The parameter records must appear in the order listed above. As noted, only the first eight columns of each record are used; the remainder of each record is ignored by the RU program.

The user initiates the RU program by logging onto the UIC and entering the following command on the user's terminal:

```
RUN [204,5]RU
```

2.3.3 PROGRAM OPERATION

After invoking the RU program, the user will be prompted for the name of the RU input parameters file and the name of the desired project. If the user responds with only a carriage return when prompted for the name of the parameters file,

the program will use the default file [204,6]RU.NL (Section 2.3.2). When the report is completed, a message "Report is in file: <PRJNAM>.RU" will be displayed on the user's terminal, where <PRJNAM> is the name of the project selected by the user.

To terminate processing of the RU program, the user enters ^Z (control Z) in response to any prompt. After exiting from the program, the user may print the output report by using the PRINT command; for example

```
PRINT DESIM.RU
```

Four intermediate plotting files for use by the Pie Chart Plotting Program are also generated by the RU program. These files are named <PRJNAM>.1RU, <PRJNAM>.2RU, <PRJNAM>.3RU, and <PRJNAM>.4RU, where <PRJNAM> is the name of the project selected by the user. However, the Pie Chart Plotting Program is not currently implemented.

2.3.4 SAMPLE OUTPUT

Figure 2-13 shows a sample RU program report for project DESIM. The first page of the report lists the input files, the key input parameters, abbreviations, and notes. This page also describes the use of the key input parameters. The second and third pages form the body of the report and have the same format. The figures on the second page are computed from the data in the selected project's RSF file; the figures on the third page are computed from the selected project's CSR file. Each page has three sections.

The first section gives a breakdown of manpower hours by project phase. Actual (unweighted) hours, weighted hours, and cost of weighted hours are given. For the weighted and unweighted hours, the equivalent number of person months is shown in brackets. Percentages are also given. For weighted and unweighted hours, the percentages are relative

ABBREVIATIONS AND NOTES

P * PROGRAMMER
M * MANAGEMENT
S * SERVICES

HR * HOURS
MM * MONTHS
WT * WEIGHTED
\$ * DOLLARS
K\$ * DOLLARS X 1000

ADJUSTED
OLD SOURCE FACTOR
95 / 75 TIME FACTOR
SOURCE LINES MULTIPLE

* NEW ITEMS PLUS ('OLD SOURCE FACTOR' X # OLD ITEMS)
* FRACTION FROM 0.0 TO 1.0
* FACTOR USED TO CONVERT 95 TIME TO EQUIVALENT 75 TIME
* RUN DATA IS COMPARED TO THE NUMBER OF SOURCE LINES DIVIDED BY THIS FACTOR

INPUT FILES
{204,1}DESIM .RSF (RSF FILE)
{204,1}DESIM .CSR (CSR FILE)
{204,6}RU.NL (NL FILE)

INPUT PARAMETERS
WEIGHTS
PROGRAMMER 1.000 (PRWT)
MANAGER 1.500 (MGMT)
SERVICES 0.500 (SVWT)

COST ESTIMATES
\$ / HR 20.00 (COSTHR)
K\$ / MM 3.467 (COSTMM)

PRODUCTIVITY HOURS
FOR 1 MONTH 173.333 (HRMON)
FOR 1 YEAR 2079.996 (HRYR)

OLD SOURCE FACTOR 0.200 (OLDFAC)
95 TO 75 TIME FACTOR 1.000 (TS95175)
SOURCE LINES MULTIPLE 1000 (LNMULT)

Figure 2-13. Resource Utilization Report Program (RU) Output (1 of 3)

PROGRAMMER DATA FROM RESOURCE SUMMARY FORMS

START DATE	END DATE	DESIGN		CODE & UNIT TEST		SYSTEM TEST		ACCEPTANCE TEST		CLEANUP		TOTALS				
		79/10/1	80/4/12	80/4/12	80/8/30	80/8/30	80/9/27	80/9/27	80/10/25	80/11/29	79/10/1	80/11/29				
HR [MM] % OF PHASE																
PROGRAMMER		847	[5]	45%	1278	[7]	63%	368	[2]	71%	268	[2]	51%	3113	[18]	55%
MANAGER		676	[4]	26%	445	[3]	23%	72	[0]	13%	58	[0]	11%	1285	[7]	23%
SERVICES		326	[2]	17%	287	[2]	14%	76	[0]	14%	194	[1]	37%	1160	[7]	20%
TOTAL		1850	[11]	100%	2011	[12]	100%	517	[3]	100%	531	[3]	100%	5559	[32]	100%
WT HR [MM] % OF PHASE																
PROGRAMMER		847	[5]	41%	1278	[7]	61%	368	[2]	71%	268	[2]	59%	3113	[18]	55%
MANAGER		1014	[6]	50%	667	[4]	31%	108	[1]	20%	50	[0]	9%	1927	[11]	34%
SERVICES		163	[1]	8%	143	[1]	6%	38	[0]	7%	87	[1]	21%	580	[3]	10%
TOTAL		2025	[12]	100%	2090	[12]	100%	515	[3]	100%	537	[3]	100%	5621	[32]	100%
WT K\$. % OF ROW																
PROGRAMMER		16.9	27%		25.6	41%		7.4	11%		5.4	8%		62.3	100%	
MANAGER		20.3	52%		13.3	34%		2.2	5%		1.7	4%		38.5	100%	
SERVICES		3.3	28%		2.9	24%		0.8	6%		1.9	16%		11.6	100%	
TOTAL		40.5	33%		41.8	36%		10.3	9%		9.1	19%		112.4	100%	

	OLD	NEW	DELIVERED	ADJUSTED
# OF SOURCE LINES (X 1000)	1	14	15	14
# OF COMPONENTS	9	93	102	94
LINES PRODUCED / MM (WT MM) USING P TIME USING P+M TIME USING P+M+S TIME		0 (779) 551 (481) 436 (431)	0 (835) 591 (515) 467 (462)	0 (790) 559 (488) 442 (437)
RUN DATA PER 1000 SOURCE LINES				
# OF RUNS (TOTAL= 1589)		113.500	105.933	111.901
# OF CHANGES (TOTAL= 255)		18.214	17.000	17.958
5360/95 HOURS (TOTAL= 62.8)		4.486	4.187	4.423
5360/75 HOURS (TOTAL= 0.4)		0.029	0.027	0.028
EQUIVALENT 75 HOURS (TOTAL= 63.2)		4.514	4.213	4.451
COST \$ (TOTAL= 112.4)		8.030	7.495	7.917

K\$	/	MM	(P+M	TIME)
K\$	/	MM	(P+M+S	TIME)

Figure 2-13. Resource Utilization Report Program (RU) Output (2 of 3)

PROGRAMMER DATA FROM COMPONENT STATUS FORMS

START DATE END DATE	DESIGN		CODE & UNIT TEST		SYSTEM TEST		ACCEPTANCE TEST		CLEANUP		TOTALS	
	79/10/ 1 80/ 4/12		80/ 4/12 80/ 8/30		80/ 8/30 80/ 9/27		80/ 9/27 80/10/25		80/10/25 80/11/29		79/10/ 1 80/11/29	
HR [MM] % OF PHASE												
PROGRAMMER	858 [5] 46%		1424 [8] 66%		392 [2] 72%		370 [2] 54%		259 [1] 50%		3304 [19] 57%	
MANAGER	676 [4] 36%		445 [3] 20%		72 [0] 13%		33 [0] 4%		58 [0] 11%		1285 [7] 22%	
SERVICES	326 [2] 17%		287 [2] 13%		76 [0] 14%		276 [2] 40%		194 [1] 37%		1160 [7] 20%	
TOTAL	1860 [11] 100%		2156 [12] 100%		540 [3] 100%		679 [4] 100%		511 [3] 100%		5749 [33] 100%	
WT HR [MM] % OF PHASE												
PROGRAMMER	858 [5] 42%		1424 [8] 63%		392 [2] 72%		370 [2] 66%		259 [1] 58%		3304 [19] 56%	
MANAGER	1014 [6] 49%		667 [4] 29%		108 [1] 20%		50 [0] 8%		87 [1] 19%		1927 [11] 33%	
SERVICES	163 [1] 8%		143 [1] 6%		38 [0] 7%		138 [1] 24%		97 [1] 21%		580 [3] 9%	
TOTAL	2035 [12] 100%		2235 [13] 100%		538 [3] 100%		558 [3] 100%		443 [3] 100%		5811 [33] 100%	
WT K\$, % OF ROW												
PROGRAMMER	17.2 25%		28.5 43%		7.8 11%		7.4 11%		5.2 7%		66.1 100%	
MANAGER	20.3 52%		13.3 34%		2.2 5%		1.0 2%		1.7 4%		38.5 100%	
SERVICES	3.3 28%		2.9 24%		0.8 6%		2.8 23%		1.9 16%		11.6 100%	
TOTAL	40.7 32%		44.7 37%		10.8 9%		11.2 11%		8.9 8%		116.2 100%	

# OF SOURCE LINES (X 1000)	# OF COMPONENTS	OLD		NEW	DELIVERED		ADJUSTED	
USING P TIME		1		14	15		14	
USING P+M TIME		9		93	102		94	
USING P+M+S TIME								
RUN DATA PER 1000 SOURCE LINES								
# OF RUNS (TOTAL= 1589)								
# OF CHANGES (TOTAL= 255)								
\$360/95 HOURS (TOTAL= 62.8)								
\$360/75 HOURS (TOTAL= 0.4)								
EQUIVALENT 75 HOURS (TOTAL= 4.514)								
COST K\$ (TOTAL= 116.2)								
K\$ / MM (P+M TIME)								
K\$ / MM (P+M+S TIME)								

Figure 2-13. Resource Utilization Report Program (RU) Output (3 of 3)

to the phase (column) totals; for the weighted cost, the percentages are relative to the manpower category (row) totals.

The second section gives data on the size of the source code, number of changes, and computer usage. Productivity data (lines per person-month) are given for both weighted and unweighted hours, subdivided by method of counting source code lines (new, delivered, or adjusted) and by hours counted (programmer only; programmer and management; or programmer, management, and services). The computer usage and change data are given relative to number of lines of source code and include the number of runs, number of changes, computer hours, and cost.

The third section (the last two lines of the report) contains ratios of the cost to the number of unweighted person-months, first using only programmer and management hours and then using the hours from all three manpower categories (programmer, management, and services).

2.4 WEEKLY HOUR AND FORM COUNT REPORT PROGRAM (WK)

2.4.1 INTRODUCTION

2.4.1.1 Function and Purpose

The Weekly Hour and Form Count Report Program (WK) produces reports from a desired SEL data base file for a given project. Each report contains counts of records, forms, hours, or other data given for resource or programmer by week. Fourteen different types of reports are currently available through the WK program: XW1, XW2, XW3, HW, TW, TH, MW, RH1, RH2, RH3, RP, RR, AW1, and AW2 (described in Section 2.4.4). These reports are useful for both analytical and data base maintenance purposes. Samples of the reports are given in Section 2.4.4.

2.4.1.2 System Resources

The WK program is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a lineprinter, and a disk. The terminal acts both as an input and an output message device when the user interacts with the program. Input to the program consists of user-entered options and selected SEL data base files. The SEL data base is permanently stored on disk and is on line to the PDP-11/70. The output reports produced by the WK program are stored on disk and may be directed to the lineprinter by the user after the program terminates.

2.4.1.3 Approximate Run Time

The normal execution time of the WK program varies for the different types of reports. The approximate execution times (wall-clock times) for the average and extreme cases of each report type are listed in the rest of this subsection.

Average Case

<u>Report Type</u>	<u>Project</u>	<u>Execution Time (Minutes)</u>	<u>Number of Records</u>
AW1	SEASAT	2.5	1312
AW2	SEASAT	5.0	1312
HW	ISEEC	7.0	240
MW	AEM	3.0	225
RH1	AEM	3.0	92
RH2	AEM	2.0	92
RH3	AEM	1.5	92
RP	AEM	1	92
RR	AEM	1	92
TH	ISEEB	3.0	1027
TW	ISEEB	1.5	1027
XW1	AEM	4.5	955
XW2	AEM	4	955
XW3	AEM	8.5	955

Extreme Case

<u>Report Type</u>	<u>Project</u>	<u>Execution Time (Minutes)</u>	<u>Number of Records</u>
AW1	DEB	10.0	7101
AW2	DEB	36.0	7101
HW	DEA	19.0	964
MW	SMM	13.5	865
RH1	GMAS	6.0	254
RH2	GMAS	2.0	254
RH3	GMAS	3.0	254
RP	GMAS	5.0	254
RR	GMAS	2.5	254
TH	DEA	52.0	5191
TW	DEA	13.5	5191
XW1	DEA	8.5	1472

Extreme Case (Cont'd)			
<u>Report Type</u>	<u>Project</u>	<u>Execution Time (Minutes)</u>	<u>Number of Records</u>
XW2	DEA	16.0	1472
XW3	DEA	16.5	1472

2.4.1.4 Error Messages

The WK program provides two types of messages: informative messages and error messages. Most error messages concern opening or reading files. The error messages produced by the program are as follows (where the Xs are replaced by the actual values):

```

ACC READ ERROR DATE = XXXXXX  TIME = XXX
RDCRF - READ ERROR, FORMNO = XXXXXX
RDCSF - DECODE ERROR, FORMNO = XXXXXX  PROGNO = XXXXXX
ERROR IN DECODING RECORD
(FENCA) ERROR IN CONVERTING TO CHARACTER: XXXXXXXX
NAME NOT FOUND OR ERROR IN READING ESTIMATED STATISTICS
RECORD
NAME NOT FOUND OR ERROR IN READING HEADER RECORD
ERROR IN OPENING XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
RAF READ ERROR
  FORMNO = XXXXXX  SEQNO = XX
RSF READ ERROR - FORMNO = XXXXXX  SEQNO = XX
FILE NOT FOUND - XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXX IS AN INVALID TYPE

```

2.4.1.5 Restrictions/Relation to Other Software

The WK program produces two plot files in addition to the selected output report. The first plot file, <PRJNAM>.1XX, is used by the Pie Chart Plotting Program (not currently implemented); the second plot file, <PRJNAM>.2XX, is used by the GQ program (Section 2.7). PRJNAM is the project name and XX is the WK report type.

There is one restriction in executing the WK program: for a selected file of a given project, the maximum number of resources or programmers cannot exceed 20. If more than 20 resources or programmers exist, the following message will be displayed on the user's terminal: RESOURCE XXXXXX IS IGNORED DUE TO LACK OF ROOM, where XXXXXX is replaced with the resource or programmer name ignored.

2.4.2 PROGRAM INVOCATION

The user may initiate the WK program by logging onto the UIC and entering the following command on the user's terminal:

```
RUN [204,5]WK
```

2.4.3 PROGRAM OPERATION

After the user invokes the WK program, information listing the report types available to the program is displayed on the terminal. The user will then be prompted for the project name and report type. The user enters the project name of interest for the first prompt. For the second prompt, the user enters the desired type of report. If an invalid project or report type is entered, an error message is displayed.

When the desired report is completed, the following messages are displayed on the terminal:

```
NNNNN RECORDS READ
OUTPUT REPORT IS IN <PRJNAM>.XXX
PLOT FILE IS <PRJNAM>.1XXX
PLOT FILE IS <PRJNAM>.2XXX
```

where NNNNN = the number of records read
 <PRJNAM> = project name
 XXX = WK report type

The plot files are intermediate files for use by the Pie Chart Plotting Program (not currently implemented) and the GQ program.

If a null response is given to any prompt, the previous response is used. If ^Z (control Z) is entered in response to any prompt, the program terminates. After exiting from the program, the user can print the output report by using the PRINT command; for example

```
PRINT <PRJNAM>.XXX
```

where <PRJNAM> is the project name and XXX is the report type.

2.4.4 SAMPLE OUTPUT

The first page of each WK report has two parts. The top of the report is a brief summary of the overall statistics of the project, including the number of person-months, computer time used, number of runs, number of modules, number of source lines, number of changes, and phase dates for the project. This information is obtained from the EST and HDR files. The center of the first page contains a description of the abbreviated names used for resources and programmers in the body of the report.

The remainder of the report contains the desired counts given for programmers or resources by week. The left column lists each week's date from the start of the design phase to the end of the cleanup phase. These phase dates are obtained from the HDR file. The center columns contain the actual hour, form, run, or person counts recorded for each week for each resource or programmer. If there are fewer than 17 programmers or resources, a primitive plot of the resource total is given in the right margin. At the bottom of the report, a summary of the resource counts is given for each phase.

Samples of fourteen output reports are available, as follows:

1. Accounting Information Run Count by Week (XW1) for project AEM (Figure 2-14)
2. Accounting Information Central Processing Unit (CPU) Plus Input/Output (I/O) (IBM S/360-95) Hours by Week (XW2) for project AEM (Figure 2-15)
3. Accounting Information CPU Plus I/O (IBM S/360-75) Hours by Week (XW3) for project AEM (Figure 2-16)
4. Change Report by Week (HW) for project ISEEC (Figure 2-17)
5. Component Status Form Count by Week (TW) for project ISEEB (Figure 2-18)
6. Component Status Hours by Week (TH) for project ISEEB (Figure 2-19)
7. Component Summary Form Count by Week (MW) for project AEM (Figure 2-20)
8. Resource Summary (Programmer) Hours by Week (RH1) for project AEM (Figure 2-21)
9. Resource Summary (Other) Hours by Week (RH2) for project AEM (Figure 2-22)
10. Resource Summary (Computer) Hours by Week (RH3) for project AEM (Figure 2-23)
11. Resource Summary Person Count by Week (RP) for project AEM (Figure 2-24)
12. Resource Summary Run Count by Week (RR) for project AEM (Figure 2-25)
13. Run Analysis Form Count by Week (AW1) for project SEASAT (Figure 2-26)
14. Run Analysis Run Count by Week (AW2) for project SEASAT (Figure 2-27)

13-MAY-82	13:46:39	ACCOUNTING INFORMATION RUN COUNT		PROJECT AEM
78 PERSON MONTHS	201 MODULES	PHASES	START	END
382 HOURS ON IBM 360	50811 SOURCE LINES	REQUIREMENTS	O/ O/ O	O/ O/ O
4604 RUNS (ACCOUNTING REPORT)	1255 CHANGES	DESIGN	77/ 2/ 13	77/ 6/ 4
		CODE & UNIT TEST	77/ 6/ 4	77/ 12/ 3
		SYSTEM TEST	77/ 12/ 3	78/ 2/ 4
		ACCEPTANCE TEST	78/ 2/ 4	78/ 3/ 18
		CLEANUP	78/ 3/ 18	78/ 4/ 29
		MAINTENANCE	O/ O/ O	O/ O/ O

RESOURCE
1 ANY - ANY IBM 360

Figure 2-14. Accounting Information Run Count by Week (XWL) (1 of 3)

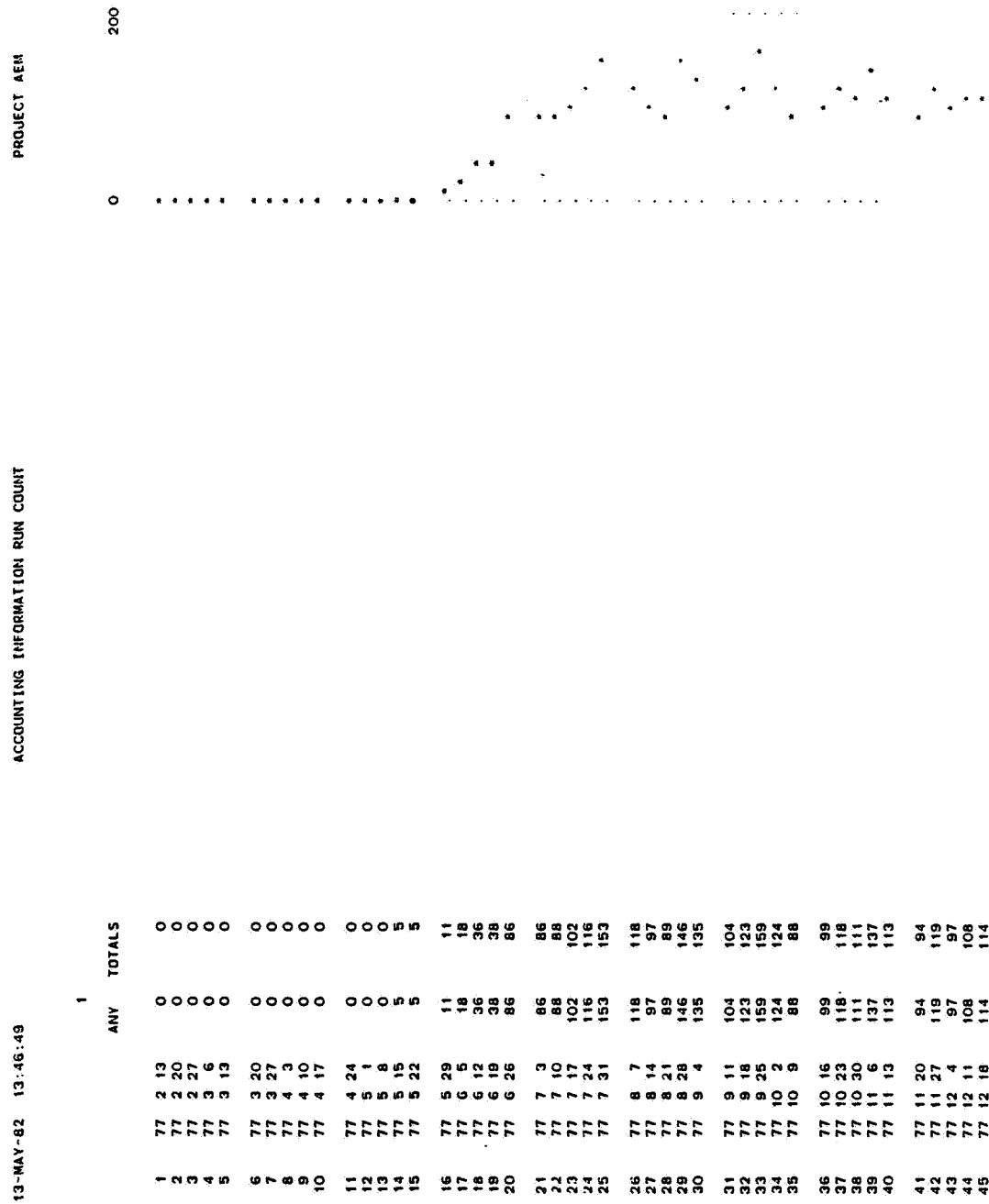


Figure 2-14. Accounting Information Run Count by Week (XW1) (2 of 3)

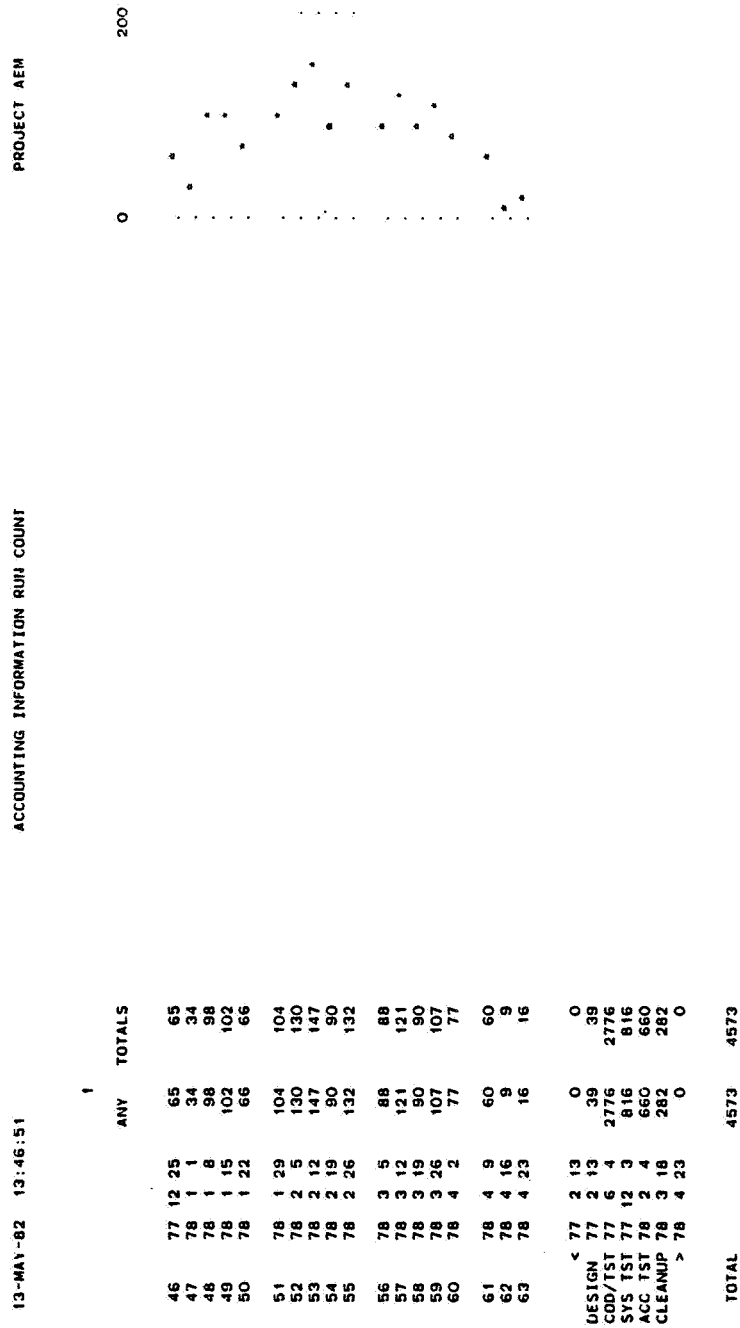


Figure 2-14. Accounting Information Run Count by Week (XW1) (3 of 3)

13-MAY-82	13:59:57	ACCOUNTING INFORMATION CPU + 10 (95)		PROJECT AEM
78 PERSON MONTHS		201 MODULES	PHASES	START
382 HOURS ON IBM 360		50911 SOURCE LINES	REQUIREMENTS	END
4604 RUNS (ACCOUNTING REPORT)		1255 CHANGES	DESIGN	0/ 0/ 0
			CODE & UNIT TEST	77/ 2/13
			SYSTEM TEST	77/ 6/ 4
			ACCEPTANCE TEST	77/12/ 3
			CLEANUP	78/ 2/ 4
			MAINTENANCE	78/ 3/18
				78/ 4/29
				0/ 0/ 0

RESOURCE
1 IBM - IBM S/360-95

Figure 2-15. Accounting Information CPU Plus I/O (IBM S/360-95)
Hours by Week (XW2) (1 of 3)

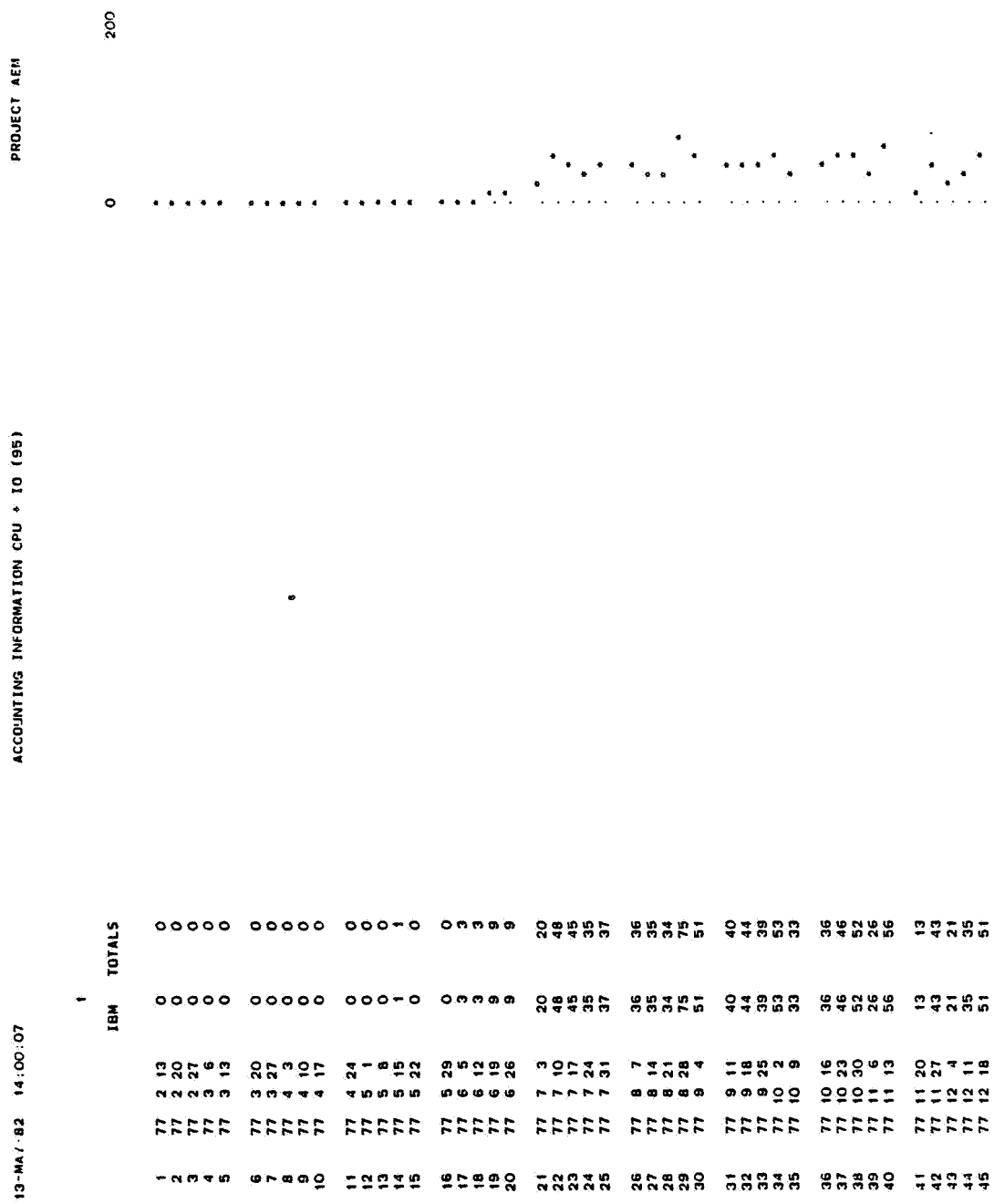


Figure 2-15. Accounting Information CPU Plus I/O (IBM S/360-95) Hours by Week (XW2) (2 of 3)

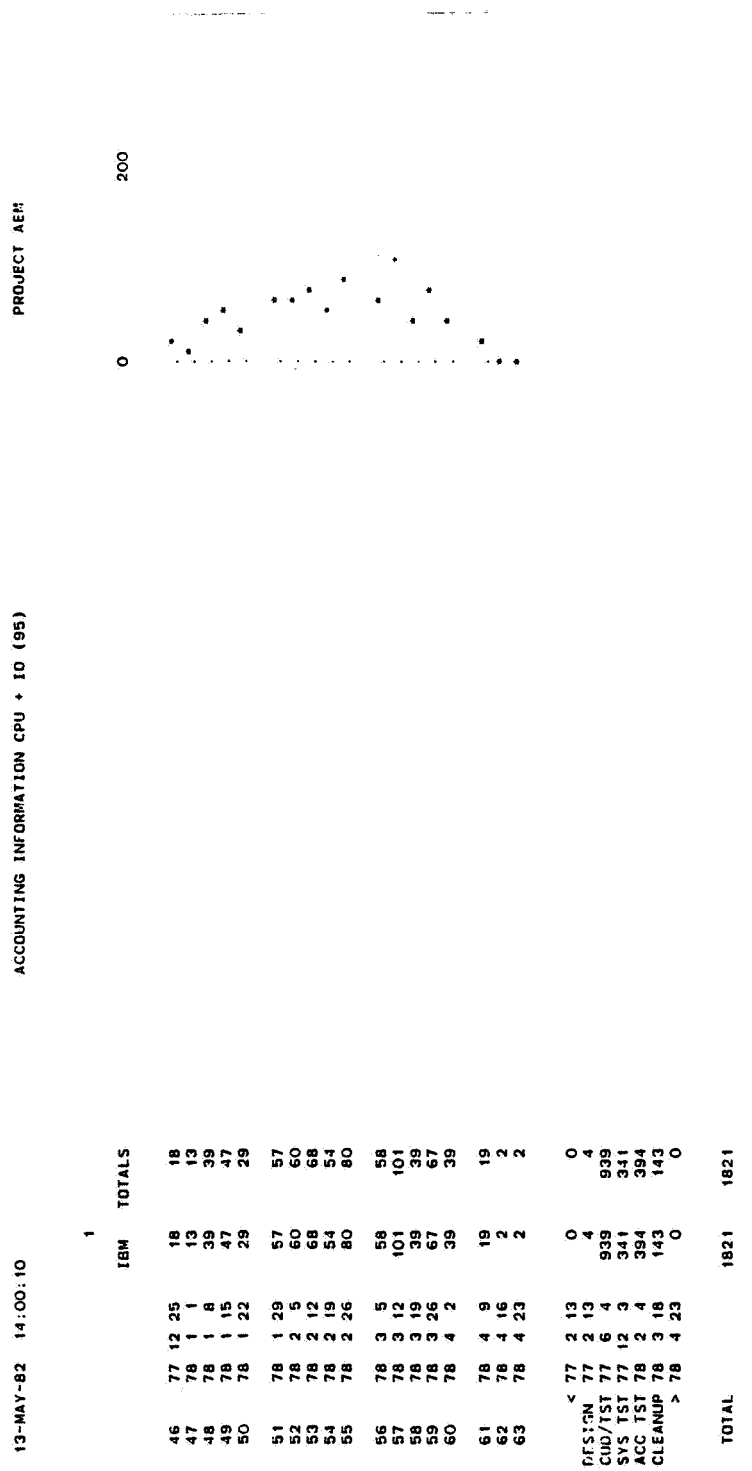


Figure 2-15. Accounting Information CPU Plus I/O (IBM S/360-95)
Hours by Week (XW2) (3 of 3)

13-MAY-82	14:45:26	ACCOUNTING INFORMATION CPU + IO (75)		PROJECT AEM
78 PERSON MONTHS	201 MODULES	PHASES	START	END
382 HOURS ON IBM 360	50911 SOURCE LINES	REQUIREMENTS	0/ 0/ 0	0/ 0/ 0
4604 RUNS (ACCOUNTING REPORT)	1255 CHANGES	DESIGN	77/ 2/13	77/ 6/ 4
		CODE & UNIT TEST	77/ 6/ 4	77/12/ 3
		SYSTEM TEST	77/12/ 3	78/ 2/ 4
		ACCEPTANCE TEST	78/ 2/ 4	78/ 3/18
		CLEANUP	78/ 3/18	78/ 4/29
		MAINTENANCE	0/ 0/ 0	0/ 0/ 0

RESOURCE
1 IBM - IBM S/360-75

Figure 2-16. Accounting Information CPU Plus I/O (IBM S/360-75)
Hours by Week (XW3) (1 of 3)

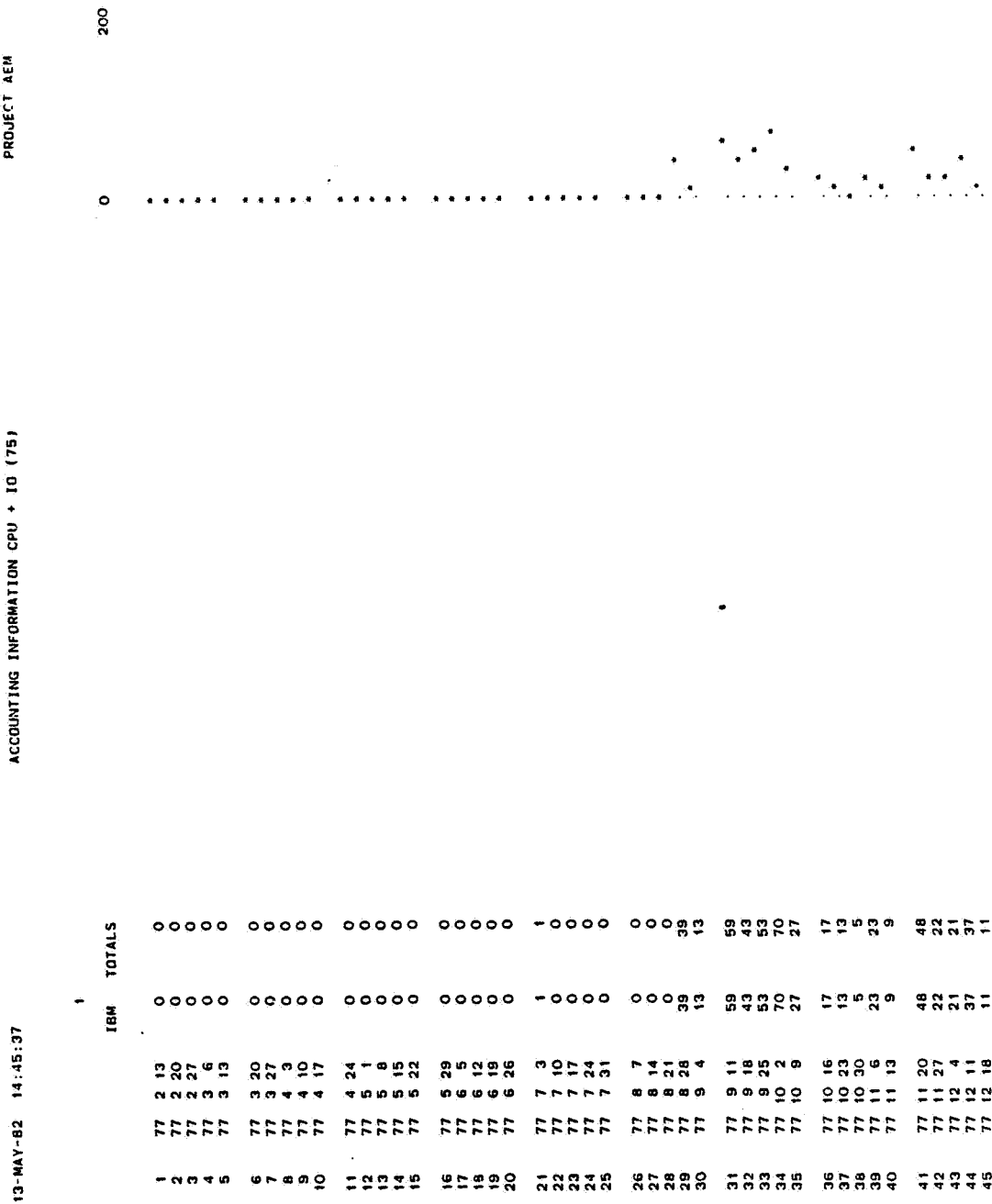


Figure 2-16. Accounting Information CPU Plus I/O (IBM S/360-75)
Hours by Week (XW3) (2 of 3)

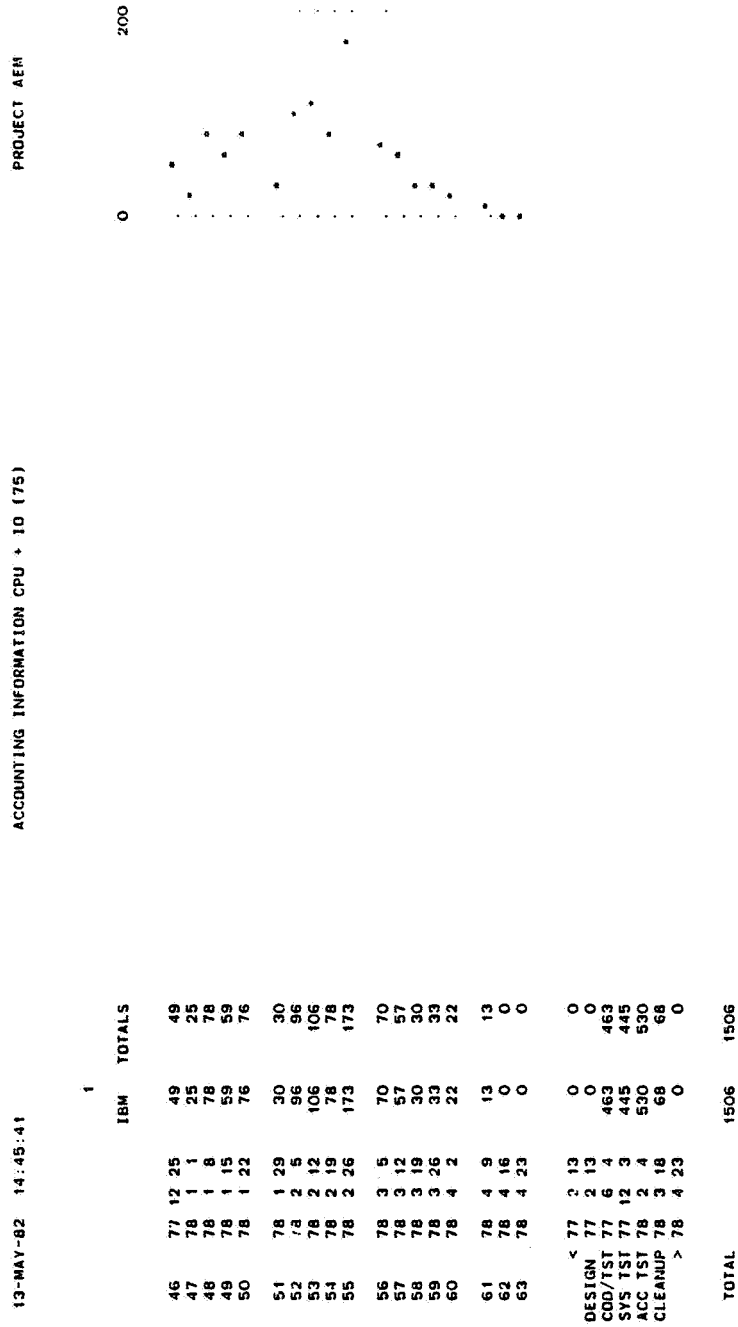


Figure 2-16. Accounting Information CPU Plus I/O (IBM S/360-75)
Hours by Week (XW3) (3 of 3)

12-MAY-82	14.54:51	CHANGE REPORT BY WEEK		PROJECT ISEEC	
39 PERSON MONTHS		374 MODULES	PHASES	START	END
169 HOURS ON IBM 360		75420 SOURCE LINES	REQUIREMENTS	0/ 0/ 0	0/ 0/ 0
3033 RUNS (ACCOUNTING REPORT)		858 CHANGES	DESIGN	77/ 8/15	77/12/ 3
			CODE & UNIT TEST	77/12/ 3	78/ 3/11
			SYSTEM TEST	78/ 3/11	78/ 4/ 8
			ACCEPTANCE TEST	78/ 4/ 8	78/ 5/ 6
			CLEANUP	78/ 5/ 6	78/ 6/24
			MAINTENANCE	0/ 0/ 0	0/ 0/ 0

RESOURCE

- 1 LIU = LIU
- 2 LIND = LINDBOE
- 3 GRON = GRONDALSKI
- 4 STEC = STECKSCHULTE
- 5 LIU = LIU
- 6 PAGE = PAGE

Figure 2-17. Change Report by Week (HW) (1 of 3)

12-MAY-82 14:55:06		CHANGE REPORT BY WEEK						PROJECT ISEEC	
		1	2	3	4	5	6		
		L IU LIND GRON STEC L IU PAGE TOTALS							
1	77 8 15	0	0	0	0	0	0	0	0
2	77 8 22	0	0	0	0	0	0	0	0
3	77 8 29	0	0	0	0	0	0	0	0
4	77 9 5	0	0	0	0	0	0	0	0
5	77 9 12	0	0	0	0	0	0	0	0
6	77 9 19	0	0	0	0	0	0	0	0
7	77 9 26	0	0	0	0	0	0	0	0
8	77 10 3	0	0	0	0	0	0	0	0
9	77 10 10	0	0	0	0	0	0	0	0
10	77 10 17	0	0	0	0	0	0	0	0
11	77 10 24	0	0	0	0	0	0	0	0
12	77 10 31	0	0	0	0	0	0	0	0
13	77 11 7	0	1	0	0	0	0	1	0
14	77 11 14	0	0	0	0	0	0	0	0
15	77 11 21	0	0	0	0	0	0	0	0
16	77 11 28	0	0	0	0	0	0	0	0
17	77 12 5	0	5	6	0	0	2	13	0
18	77 12 12	0	0	0	0	0	0	0	0
19	77 12 19	0	0	0	0	0	0	0	0
20	77 12 26	0	0	4	0	0	0	4	0
21	78 1 2	1	0	0	0	0	0	1	0
22	78 1 9	2	4	1	5	0	2	14	0
23	78 1 16	2	0	1	4	0	0	7	0
24	78 1 23	0	8	2	1	0	0	11	0
25	78 1 30	1	0	0	0	0	0	1	0
26	78 2 6	2	23	1	3	1	0	30	0
27	78 2 13	0	5	0	4	0	0	9	0
28	78 2 20	1	3	0	6	0	0	10	0
29	78 2 27	1	1	0	5	1	0	8	0
30	78 3 6	3	0	4	9	0	0	16	0
31	78 3 13	5	0	0	7	0	0	12	0
32	78 3 20	4	0	1	1	0	0	6	0
33	78 3 27	0	9	0	9	0	0	18	0
34	78 4 3	8	7	2	11	0	0	28	0
35	78 4 10	1	4	3	20	1	0	29	0
36	78 4 17	2	3	5	6	0	1	17	0
37	78 4 24	0	2	0	0	0	1	3	0
38	78 5 1	0	0	0	0	0	0	0	0
39	78 5 8	0	0	0	0	0	0	0	0
40	78 5 15	0	0	0	0	0	0	0	0
41	78 5 22	0	0	0	0	0	0	0	0
42	78 5 29	0	0	0	0	0	0	0	0
43	78 6 5	0	0	0	0	0	0	0	0
44	78 6 12	0	0	0	0	0	0	0	0
45	78 6 19	0	0	0	0	0	0	0	0

Figure 2-17. Change Report by Week (HW) (2 of 3)

	1	2	3	4	5	6	
LIU	LIND	GRON	STEC	LIU	PAGE	TOTALS	
< 77 8 15	0	0	0	0	0	0	1
DESIGN 77 8 15	0	1	0	0	0	2	3
CDD/TST 77 12 3	18	49	19	44	2	2	134
SYS TST 78 3 11	12	17	5	36	1	0	71
ACC TST 78 4 8	3	8	6	11	0	2	30
CLEANUP 78 5 6	0	0	0	0	0	0	0
> 78 6 19	0	0	1	0	0	0	1
TOTAL	33	75	31	92	3	6	240

Figure 2-17. Change Report by Week (HW) (3 of 3)

14-MAY-82	11:12:27	COMPONENT STATUS FORM COUNT BY WEEK			PROJECT 15FEB
95 PERSON MONTHS 320 HOURS ON IBM 360 6871 RUNS (ACCOUNTING REPORT)	283 MODULES 55237 SOURCE LINES 1649 CHANGES	PHASES REQUIREMENTS DESIGN CODE & UNIT TEST SYSTEM TEST ACCEPTANCE TEST CLEANUP MAINTENANCE	START O/ O/ O 76/10/ 1 77/ 2/26 77/ 7/23 77/ 8/20 77/ 9/17 O/ O/ O	END O/ O/ O 77/ 2/26 77/ 7/23 77/ 8/20 77/ 9/17 78/ 1/ 1 O/ O/ O	
RESOURCE					
1	TODD = TODD				
2	V. B = V. BROWN				
3	BEIG = BEIGE				
4	WILL = WILLIAMS				
5	WHIS = WHISTLER				
6	STEC = STECKSCHULTE				
7	FRAN = FRANTZ				
8	LIU = LIU				
9	SARA = SARALKAR				
10	MCGA = MCGARRY				
11	2208 = 22088				
12	WILS = WILSON				
13	LIU = LIU				

Figure 2-18. Component Status Form Count by Week (TW) (1 of 3)

14-MAY-82 11:12:31		COMPONENT STATUS FORM COUNT BY WEEK													PROJECT 15FEB		
		1	2	3	4	5	6	7	8	9	10	11	12	13	TOTALS	0	20
		TODD V. B BEIG WILL WHIS STEC FRAN LIU SARA MCGA 2208 WILS LIU															
1	76 10 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.
2	76 10 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.
3	76 10 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.
4	76 10 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.
5	76 10 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.
6	76 11 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.
7	76 11 12	1	0	0	0	0	0	0	0	0	0	0	0	0	1	.	.
8	76 11 19	0	0	0	0	0	0	0	0	0	3	0	0	0	3	.	.
9	76 11 26	2	1	0	0	0	0	0	0	0	4	0	0	0	7	.	.
10	76 12 3	1	1	0	0	0	0	0	0	0	2	0	0	0	4	.	.
11	76 12 10	1	1	0	0	0	1	1	0	0	1	0	0	0	5	.	.
12	76 12 17	1	1	0	1	0	1	1	0	0	1	0	0	0	6	.	.
13	76 12 24	1	1	0	0	0	1	0	0	0	1	0	0	0	4	.	.
14	76 12 31	1	1	0	0	0	1	0	0	0	0	0	0	0	3	.	.
15	77 1 7	0	1	0	1	0	1	0	0	0	1	0	0	0	4	.	.
16	77 1 14	1	1	0	1	0	1	1	1	0	1	0	0	0	7	.	.
17	77 1 21	1	1	0	1	0	1	1	1	0	0	0	0	0	6	.	.
18	77 1 28	1	1	0	1	0	1	1	1	0	0	0	0	0	6	.	.
19	77 2 4	1	1	0	1	1	1	1	1	1	1	0	0	0	9	.	.
20	77 2 11	1	1	0	1	1	1	1	1	1	0	0	0	0	8	.	.
21	77 2 18	1	1	0	1	1	1	0	1	1	1	0	0	0	8	.	.
22	77 2 25	1	1	0	0	1	1	1	1	1	0	1	0	0	8	.	.
23	77 3 4	1	1	1	1	1	1	1	1	1	0	0	0	0	9	.	.
24	77 3 11	1	1	1	1	1	2	1	1	0	1	0	0	0	10	.	.
25	77 3 18	2	1	1	1	1	1	1	1	2	0	0	0	0	11	.	.
26	77 3 25	1	1	1	1	1	1	1	1	1	0	0	0	0	9	.	.
27	77 4 1	0	1	1	1	0	1	1	1	0	0	0	0	0	6	.	.
28	77 4 8	1	1	0	1	1	0	1	1	0	0	0	0	0	6	.	.
29	77 4 15	1	0	1	1	1	1	1	1	0	0	0	0	0	7	.	.
30	77 4 22	1	1	0	1	1	0	1	1	0	1	0	0	0	6	.	.
31	77 4 29	0	1	1	1	1	2	0	0	0	0	0	0	0	6	.	.
32	77 5 6	1	1	1	1	1	1	3	0	1	0	0	1	0	11	.	.
33	77 5 13	0	1	1	1	1	1	1	1	0	0	0	1	0	8	.	.
34	77 5 20	0	1	1	1	1	1	1	1	1	0	0	1	0	9	.	.
35	77 5 27	0	1	1	1	1	1	1	1	0	0	0	1	0	8	.	.
36	77 6 3	0	0	1	1	1	1	0	1	0	0	0	1	0	6	.	.
37	77 6 10	0	0	1	0	1	2	1	1	0	0	0	1	0	8	.	.
38	77 6 17	0	0	1	1	1	0	0	0	1	0	0	1	0	5	.	.
39	77 6 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.
40	77 7 1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	.	.
41	77 7 8	0	1	1	0	1	1	0	0	1	0	0	0	1	6	.	.
42	77 7 15	0	1	1	0	1	1	0	0	1	0	0	0	1	6	.	.
43	77 7 22	0	1	1	0	1	1	0	0	0	0	0	0	1	3	.	.
44	77 7 29	0	1	1	0	0	1	0	0	0	0	0	0	0	3	.	.
45	77 8 5	0	0	1	0	0	1	0	0	0	0	0	0	1	3	.	.

Figure 2-18. Component Status Form Count by Week (TW) (2 of 3)

14-MAY-82 11:12:32		COMPONENT STATUS FORM COUNT BY WEEK													PROJECT ISFEB	
		1	2	3	4	5	6	7	8	9	10	11	12	13		
		TOOD V. B BEIG WILL WHIS STEC FRAN LIU SARA MCGA 2208 WILS LIU TOTALS														
46	77 8 12	0	1	1	0	0	1	0	0	1	0	0	1	1	6	
47	77 8 19	0	1	1	0	0	1	0	0	0	0	0	0	0	3	
48	77 8 26	0	1	1	0	0	0	0	0	0	0	0	0	0	1	
49	77 9 2	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
50	77 9 9	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
51	77 9 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
52	77 9 23	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
53	77 9 30	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
54	77 10 7	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
55	77 10 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
56	77 10 21	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
57	77 10 28	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
58	77 11 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
59	77 11 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
60	77 11 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
61	77 11 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
62	77 12 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
63	77 12 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
64	77 12 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
65	77 12 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
66	77 12 30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
67	78 1 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
< 76 10 1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DESIGN 76 10 1		15	14	0	8	4	12	8	7	4	16	1	0	0	89	
COD/TST 77 2 26		9	15	17	15	18	19	15	10	13	1	0	9	3	144	
SYS TST 77 7 23		0	3	4	0	0	4	0	0	1	0	0	1	2	15	
ACC TST 77 8 20		0	4	0	0	0	0	0	0	0	0	0	0	0	4	
CLEANUP 77 9 17		0	4	0	0	0	2	0	0	0	0	0	0	0	6	
> 78 1 6		1	0	0	0	0	0	0	0	0	0	0	0	0	1	
TOTAL		25	40	21	23	22	37	23	17	18	17	1	10	5	259	

Figure 2-18. Component Status Form Count by Week (TW) (3 of 3)

14-MAY-82	11:15:30	COMPONENT STATUS HOURS BY WEEK				PROJECT 1 SEEB	
95 PERSON MONTHS		283 MODULES		PHASES		START	END
320 HOURS ON IBM 360		55237 SOURCE LINES		REQUIREMENTS		0/ 0/ 0	0/ 0/ 0
6871 RUNS (ACCOUNTING REPORT)		1649 CHANGES		DESIGN		76/10/ 1	77/ 2/26
				CODE & UNIT TEST		77/ 2/26	77/ 7/23
				SYSTEM TEST		77/ 7/23	77/ 8/20
				ACCEPTANCE TEST		77/ 8/20	77/ 9/17
				CLEANUP		77/ 9/17	78/ 1/ 7
				MAINTENANCE		0/ 0/ 0	0/ 0/ 0

RESOURCE

- TODD = TODD
- V. B = V. BROWN
- BEIG = BEIGE
- WILL = WILLIAMS
- WHIS = WHISTLER
- STEC = STECKSCHULTE
- FRAN = FRANTZ
- LIU = LIU
- SARA = SARALKAR
- MCGA = MCGARRY
- 2208 = 22088
- WILS = WILSON
- LIU = LIU

Figure 2-19. Component Status Hours by Week (TH) (1 of 3)

14-MAY-82 11:15:36

COMPONENT STATUS HOURS BY WEEK

PROJECT 1SEEB

	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTALS
	TOUD	V. B	BEIG	WILL	WHIS	STEC	FRAN	LIU	SARA	MCGA	2208	WILS	LIU	
1	76 10 1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	76 10 8	0	0	0	0	0	0	0	0	0	0	0	0	0
3	76 10 15	0	0	0	0	0	0	0	0	0	0	0	0	0
4	76 10 22	0	0	0	0	0	0	0	0	0	0	0	0	0
5	76 10 29	0	0	0	0	0	0	0	0	0	0	0	0	0
6	76 11 5	0	0	0	0	0	0	0	0	0	0	0	0	0
7	76 11 12	3	0	0	0	0	0	0	0	0	0	0	0	3
8	76 11 19	0	0	0	0	0	0	0	0	0	4	0	0	4
9	76 11 26	6	6	0	0	0	0	0	0	0	6	0	0	18
10	76 12 3	8	6	0	0	0	0	0	0	0	3	0	0	17
11	76 12 10	9	7	0	0	0	40	37	0	0	2	0	0	95
12	76 12 17	2	4	0	7	0	40	27	0	0	2	0	0	82
13	76 12 24	3	3	0	0	0	20	0	0	0	1	0	0	27
14	76 12 31	2	1	0	0	0	24	0	0	0	0	0	0	27
15	77 1 7	0	4	0	13	0	40	0	0	0	4	0	0	61
16	77 1 14	1	5	0	17	0	40	33	25	0	2	0	0	123
17	77 1 21	5	7	0	22	0	40	30	36	0	0	0	0	140
18	77 1 28	4	6	0	19	0	26	20	40	0	0	0	0	115
19	77 2 4	5	2	0	28	4	38	16	40	5	3	0	0	141
20	77 2 11	10	5	0	17	10	40	16	40	21	0	0	0	159
21	77 2 18	30	6	0	15	30	50	0	40	21	2	0	0	194
22	77 2 25	32	6	0	1	24	41	20	30	36	0	3	0	193
23	77 3 4	35	9	11	14	39	8	28	40	40	0	0	0	224
24	77 3 11	10	5	11	18	34	94	32	40	0	4	0	0	248
25	77 3 18	38	7	9	11	36	24	25	40	24	0	0	0	214
26	77 3 25	10	8	26	7	31	57	30	30	50	0	0	0	249
27	77 4 1	0	9	22	16	0	65	23	32	0	0	0	0	167
28	77 4 8	20	4	0	7	37	0	18	0	28	0	0	0	114
29	77 4 15	30	9	17	13	47	44	27	0	27	0	0	0	214
30	77 4 22	30	4	0	5	27	0	27	0	42	0	0	0	135
31	77 4 29	0	20	17	9	44	52	0	0	0	0	0	0	142
32	77 5 6	40	6	32	3	30	41	59	0	32	0	0	34	277
33	77 5 13	0	2	42	16	34	23	15	16	0	0	0	0	178
34	77 5 20	0	12	33	18	31	40	19	40	40	0	0	31	264
35	77 5 27	0	12	38	49	45	46	27	38	0	0	19	0	274
36	77 6 3	0	0	38	35	23	34	0	32	0	0	0	28	190
37	77 6 10	0	0	45	0	32	65	72	32	27	0	0	35	308
38	77 6 17	0	0	41	44	32	0	0	36	0	0	0	35	188
39	77 6 24	0	0	0	0	0	0	0	0	0	0	0	0	0
40	77 7 1	0	0	0	0	0	0	0	0	0	0	40	0	40
41	77 7 8	0	12	40	0	32	54	0	0	39	0	0	0	217
42	77 7 15	0	23	37	0	40	43	0	0	40	0	0	0	225
43	77 7 22	0	14	61	0	39	44	0	0	0	0	40	0	238
44	77 7 29	0	8	60	0	0	48	0	0	0	0	0	0	116
45	77 8 5	0	0	58	0	0	48	0	0	0	0	0	40	146

Figure 2-19. Component Status Hours by Week (TH) (2 of 3)

14-MAY-82 11:15:38		COMPONENT STATUS HOURS BY WEEK													PROJECT USEB	
		1	2	3	4	5	6	7	8	9	10	11	12	13		
		TODD V. B BEIG WILL WHIS STEC FRAN LIU SARA MCGA 220B WILS LIU TOTALS													0	400
46	77 8 12	0	2	66	0	0	44	0	0	57	0	0	40	249		
47	77 8 19	0	0	70	0	0	44	0	0	0	0	0	0	114		
48	77 8 26	0	9	0	0	0	0	0	0	0	0	0	0	9		
49	77 9 2	0	10	0	0	0	0	0	0	0	0	0	0	10		
50	77 9 9	0	12	0	0	0	0	0	0	0	0	0	0	12		
51	77 9 16	0	0	0	0	0	0	0	0	0	0	0	0	0		
52	77 9 23	0	2	0	0	0	0	0	0	0	0	0	0	2		
53	77 9 30	0	0	0	0	46	0	0	0	0	0	0	0	46		
54	77 10 7	0	2	0	0	0	0	0	0	0	0	0	0	2		
55	77 10 14	0	0	0	0	0	0	0	0	0	0	0	0	0		
56	77 10 21	0	0	0	0	36	0	0	0	0	0	0	0	36		
57	77 10 28	0	6	0	0	0	0	0	0	0	0	0	0	6		
58	77 11 4	0	0	0	0	0	0	0	0	0	0	0	0	0		
59	77 11 11	0	0	0	0	0	0	0	0	0	0	0	0	0		
60	77 11 18	0	0	0	0	0	0	0	0	0	0	0	0	0		
61	77 11 25	0	0	0	0	0	0	0	0	0	0	0	0	0		
62	77 12 2	0	0	0	0	0	0	0	0	0	0	0	0	0		
63	77 12 9	0	0	0	0	0	0	0	0	0	0	0	0	0		
64	77 12 16	0	0	0	0	0	0	0	0	0	0	0	0	0		
65	77 12 23	0	0	0	0	0	0	0	0	0	0	0	0	0		
66	77 12 30	0	0	0	0	0	0	0	0	0	0	0	0	0		
67	78 1 6	0	0	0	0	0	0	0	0	0	0	0	0	0		
< 76 10 1		0	0	0	0	0	0	0	0	0	0	0	0	0		
DESIGN 76 10 1		120	68	0	139	68	139	199	251	83	29	3	0	1399		
COD/TST 77 2 26		213	156	520	265	633	734	402	340	425	4	0	292	122		
SYS TST 77 7 23		0	10	251	0	0	184	0	0	57	0	0	40	80		
ACC TST 77 8 20		0	31	0	0	0	0	0	0	0	0	0	0	31		
CLEANUP 77 9 17		0	10	0	0	0	82	0	0	0	0	0	0	92		
> 78 1 6		32	0	0	0	0	0	0	0	0	0	0	0	32		
TOTAL		365	275	774	404	701	1439	601	591	565	33	3	332	202	6285	

Figure 2-19. Component Status Hours by Week (TH) (3 of 3)

14-MAY-82 09:46:03		COMPONENT SUMMARY FORM COUNT / WEEK		PROJECT AEM	
78 PERSON MONTHS	201 MODULES	PHASES	START	END	
382 HOURS ON IBM 360	50911 SOURCE LINES	REQUIREMENTS	0/ 0/ 0	0/ 0/ 0	
4604 RUNS (ACCOUNTING REPORT)	1255 CHANGES	DESIGN & UNIT TEST	77/ 2/ 13	77/ 6/ 4	
		CODE & UNIT TEST	77/ 6/ 4	77/ 12/ 3	
		SYSTEM TEST	77/ 12/ 3	78/ 2/ 4	
		ACCEPTANCE TEST	78/ 2/ 4	78/ 3/ 18	
		CLEANUP	78/ 3/ 18	78/ 4/ 29	
		MAINTENANCE	0/ 0/ 0	0/ 0/ 0	

RESOURCE

- 1 WYCK = WYCKOFF
- 2 STAR = STARR
- 3 O
- 4 KUTC = KUTCHER
- 5 SPEN = SPENCE

Figure 2-20. Component Summary Form Count by Week (MW) (1 of 3)

14-MAY-82 C9:46:11		COMPONENT SUMMARY FORM COUNT/WEEK										PROJECT AEM	
		1	2	3	4	5	KUTC SPEN TOTALS						
	WYCK STAR												
1	77 2 13	0	0	0	0	0	0	0	0	0	0	0	60
2	77 2 20	0	0	0	0	0	0	0	0	0	0	0	
3	77 2 27	0	0	0	0	0	0	0	0	0	0	0	
4	77 3 6	0	0	0	0	0	0	0	0	0	0	0	
5	77 3 13	0	0	0	0	0	0	0	0	0	0	0	
6	77 3 20	0	0	0	0	0	0	0	0	0	0	0	
7	77 3 27	0	0	0	0	0	0	0	0	0	0	0	
8	77 4 3	0	0	0	0	0	0	0	0	0	0	0	
9	77 4 10	0	0	0	0	0	0	0	0	0	0	0	
10	77 4 17	0	0	0	0	0	0	0	0	0	0	0	
11	77 4 24	0	0	0	0	0	0	0	0	0	0	0	
12	77 5 1	0	0	0	0	0	0	0	0	0	0	0	
13	77 5 8	0	0	0	0	0	0	0	0	0	0	0	
14	77 5 15	0	1	0	0	0	0	0	0	0	1	0	
15	77 5 22	0	0	0	0	0	0	0	0	0	0	0	
16	77 5 29	30	22	1	1	0	54	28	0	0	0	0	
17	77 6 5	3	0	0	25	0	0	0	0	0	0	0	
18	77 6 12	0	0	0	0	0	0	0	0	0	0	0	
19	77 6 19	0	0	0	0	0	0	0	0	0	0	0	
20	77 6 26	0	0	0	0	0	0	0	0	0	0	0	
21	77 7 3	0	0	0	0	0	0	0	0	0	0	0	
22	77 7 10	0	0	0	0	0	0	0	0	0	0	0	
23	77 7 17	0	0	0	0	0	0	0	0	0	0	0	
24	77 7 24	0	0	0	0	0	0	0	0	0	0	0	
25	77 7 31	0	0	0	0	0	0	0	0	0	0	0	
26	77 8 7	0	0	0	0	0	0	0	0	0	0	0	
27	77 8 14	0	0	0	0	0	0	0	0	0	0	0	
28	77 8 21	0	0	0	0	0	0	0	0	0	0	0	
29	77 8 28	0	0	0	0	0	0	0	0	0	0	0	
30	77 9 4	0	0	0	0	0	0	0	0	0	0	0	
31	77 9 11	0	0	0	0	0	0	0	0	0	0	0	
32	77 9 18	0	0	0	0	0	0	0	0	0	0	0	
33	77 9 25	0	0	0	0	0	0	0	0	0	0	0	
34	77 10 2	0	0	0	0	0	0	0	0	0	0	0	
35	77 10 9	0	0	0	0	0	0	0	0	0	0	0	
36	77 10 16	0	0	0	0	0	0	0	0	0	0	0	
37	77 10 23	0	0	0	0	0	0	0	0	0	0	0	
38	77 10 30	0	0	0	0	0	0	0	0	0	0	0	
39	77 11 6	0	0	0	0	0	0	0	0	0	0	0	
40	77 11 13	0	0	0	0	0	0	0	0	0	0	0	
41	77 11 20	42	0	0	0	0	42	10	0	0	0	0	
42	77 11 27	0	10	0	0	0	0	0	0	0	0	0	
43	77 12 4	0	2	0	0	0	0	0	0	0	0	0	
44	77 12 11	0	0	0	0	1	1	1	0	0	0	0	
45	77 12 18	0	0	0	0	0	0	0	0	0	0	0	

Figure 2-20. Component Summary Form Count by Week (MW) (2 of 3)

14-MAY-82 09:46:14		COMPONENT SUMMARY FORM COUNT/WEEK										PROJECT AEM	
		WYCK STAR					KUTC SPEN						
		1	2	3	4	5	TOTALS						
46	77 12 25	0	0	0	0	0	0	0	0	0	0	0	60
47	78 1 1	0	0	0	0	0	0	0	0	0	0	0	
48	78 1 8	0	0	0	0	0	0	0	0	0	0	0	
49	78 1 15	0	2	0	27	0	29					0	
50	78 1 22	0	4	0	0	0	4					0	
51	78 1 29	1	0	0	0	0	1					0	
52	78 2 5	5	13	0	0	0	18					0	
53	78 2 12	0	0	0	0	0	0					0	
54	78 2 19	0	0	0	0	0	0					0	
55	78 2 26	2	0	0	0	0	2					0	
56	78 3 5	0	1	0	0	0	1					0	
57	78 3 12	0	0	0	0	0	0					0	
58	78 3 19	0	0	0	0	0	0					0	
59	78 3 26	0	0	0	0	0	0					0	
60	78 4 2	0	31	0	0	0	31					0	
61	78 4 9	0	0	0	0	0	0					0	
62	78 4 16	0	0	0	0	0	0					0	
63	78 4 23	0	0	0	0	0	0					0	
< 77 2 13		0	0	0	0	0	0					0	
DESIGN 77 2 13		33	23	1	26	0	83					0	
COD/TST 77 6 4		42	12	0	0	0	54					0	
SVS TST 77 12 3		6	19	0	27	1	53					0	
ACC TST 78 2 4		2	1	0	0	0	3					0	
CLEANUP 78 3 18		0	31	0	0	0	31					0	
> 78 4 23		0	0	0	0	0	0					0	
TOTAL		83	87	1	53	1	225						

Figure 2-20. Component Summary Form Count by Week (MW) (3 of 3)

12-MAY-82		15:23:23		RESOURCE SUMMARY (PROG) HPS BY WEEK		PROJECT AEN	
78 PERSON MONTHS		201 MODULES		PHASES		START	
382 HOURS ON IBM 360		50911 SOURCE LINES		REQUIREMENTS		O/ O/ O	
4604 RUNS (ACCOUNTING REPORT)		1255 CHANGES		DESIGN		77/ 2/13	
				CODE & UNIT TEST		77/ 6/ 4	
				SYSTEM TEST		77/12/ 3	
				ACCEPTANCE TEST		78/ 2/ 4	
				CLEANUP		78/ 3/18	
				MAINTENANCE		O/ O/ O	
RESOURCE							
1	WIUN = WIUNBERG						
2	LEGG = LEGG						
3	SPEN = SPENCE						
4	KUTC = KUTCHER						
5	WYCK = WYCKOFF						
6	STAR = STARR						
7	MCGA = MCGARRY						
8	DAVE = DAVENPORT						
9	SHEA = SHEAR						
10	PAGE = PAGE						
11	HOOV = HOOVER						
12	ERIC = ERICKSON						
13	MAJO = MAJOR						

Figure 2-21. Resource Summary (Programmer) Hours by Week (RHL) (1 of 3)

12-MAY-82 15:23:37		RESOURCE SUMMARY (PROG) HRS BY WEEK													PROJECT AEM	
		1	2	3	4	5	6	7	8	9	10	11	12	13	TOTALS	
		WJUN	LEGG	SPEN	KUTC	WYCK	STAR	MCQA	DAVE	SHEA	PAGE	HOOV	ERIC	MAJO		
1	77 2 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	77 2 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	77 2 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	77 3 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	77 3 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	77 3 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	77 3 27	40	40	30	40	40	0	8	8	0	0	0	0	0	0	0
8	77 4 3	40	40	30	40	40	0	8	10	0	0	0	0	0	0	0
9	77 4 10	0	40	30	40	40	0	10	4	0	0	0	0	0	0	0
10	77 4 17	0	40	30	40	40	40	6	6	0	0	0	0	0	0	0
11	77 4 24	0	40	30	40	40	40	8	8	0	0	0	0	0	0	0
12	77 5 1	0	40	24	40	40	40	8	8	0	0	0	0	0	0	0
13	77 5 8	0	40	30	40	40	40	6	16	0	0	0	0	0	0	0
14	77 5 15	0	40	30	40	40	40	8	20	0	0	0	0	0	0	0
15	77 5 22	0	40	30	40	40	40	12	16	0	0	0	0	0	0	0
16	77 5 29	0	40	30	40	40	40	8	18	0	0	0	0	0	0	0
17	77 6 5	0	32	22	32	32	32	10	18	0	0	0	0	0	0	0
18	77 6 12	0	40	30	32	40	40	8	25	0	0	0	0	0	0	0
19	77 6 19	0	40	30	40	40	40	10	21	0	0	0	0	0	0	0
20	77 6 26	0	36	35	40	40	40	8	20	0	0	0	0	0	0	0
21	77 7 3	0	32	30	40	40	40	8	20	0	0	0	0	0	0	0
22	77 7 10	0	8	24	32	32	32	0	20	0	0	0	0	0	0	0
23	77 7 17	0	24	29	40	40	40	8	18	0	0	0	0	0	0	0
24	77 7 24	0	20	30	40	40	40	10	25	0	0	0	0	0	0	0
25	77 7 31	0	0	30	40	40	40	10	25	0	0	0	0	0	0	0
26	77 8 7	0	0	30	40	40	40	8	30	0	0	0	0	0	0	0
27	77 8 14	0	40	27	40	40	40	8	26	0	0	0	0	0	0	0
28	77 8 21	0	40	37	40	40	40	10	25	0	0	0	0	0	0	0
29	77 8 28	0	40	37	40	40	47	6	26	31	9	0	0	0	0	0
30	77 9 4	0	8	45	48	54	49	6	20	0	1	0	0	0	0	0
31	77 9 11	0	24	38	32	32	37	8	20	14	4	1	0	0	0	0
32	77 9 18	0	8	51	32	26	50	8	25	8	0	1	0	0	0	0
33	77 9 25	0	30	57	54	60	54	6	25	10	10	1	0	0	0	0
34	77 10 2	0	0	54	49	40	54	8	15	1	13	1	0	0	0	0
35	77 10 9	0	0	52	44	46	40	8	0	0	9	0	0	0	0	0
36	77 10 16	0	0	47	46	46	45	6	30	0	6	0	0	0	0	0
37	77 10 23	0	0	47	46	40	48	6	26	0	15	0	0	0	0	0
38	77 10 30	0	0	47	40	40	47	8	24	0	18	0	0	0	0	0
39	77 11 6	0	0	48	46	44	49	8	24	0	16	0	0	0	0	0
40	77 11 13	0	0	46	40	40	46	6	18	0	17	0	0	0	0	0
41	77 11 20	0	0	48	49	40	48	8	20	0	17	0	0	0	0	0
42	77 11 27	0	0	28	24	24	24	4	20	0	9	0	0	0	0	0
43	77 12 4	0	0	46	52	40	40	6	20	0	17	0	0	0	0	0
44	77 12 11	0	0	48	47	40	49	8	26	0	17	0	0	0	0	0
45	77 12 18	0	0	44	43	40	46	8	26	0	17	0	0	0	0	0

Figure 2-21. Resource Summary (Programmer) Hours by Week (RH1) (2 of 3)

12-MAY-82 15:23:41		RESOURCE SUMMARY (PROG) HRS BY WEEK														PROJECT AEM	
		1	2	3	4	5	6	7	8	9	10	11	12	13	TOTALS	0	400
		WIJN LEGG SPEN KUTC WYCK STAR MCGA DAVE SHEA PAGE HOOV ERIC MAJD															
46	77 12 25	0	0	48	44	40	40	4	0	0	18	0	40	0	234		
47	78 1 1	0	0	24	8	24	0	0	0	0	7	0	24	0	87		
48	78 1 8	0	0	24	42	0	30	4	30	0	8	0	32	0	170		
49	78 1 15	0	0	57	57	8	56	8	30	0	26	0	57	0	299		
50	78 1 22	0	0	51	23	0	42	8	25	0	22	0	53	0	224		
51	78 1 29	0	0	22	0	0	53	8	25	0	25	0	55	0	188		
52	78 2 5	0	0	50	0	0	54	6	30	0	47	0	50	0	237		
53	78 2 12	0	0	60	0	0	62	10	35	0	44	0	59	0	270		
54	78 2 19	0	0	60	0	0	57	8	25	0	53	0	57	0	260		
55	78 2 26	0	0	52	0	0	50	6	25	0	51	0	53	0	237		
56	78 3 5	0	0	62	0	40	58	8	25	0	48	0	66	0	307		
57	78 3 12	0	0	60	0	40	50	12	30	0	49	0	60	0	301		
58	78 3 19	0	0	51	0	0	52	15	30	0	47	0	45	0	240		
59	78 3 26	0	0	30	0	0	28	14	25	0	26	0	40	0	163		
60	78 4 2	0	0	24	0	0	23	15	10	0	17	0	40	0	129		
61	78 4 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
62	78 4 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
63	78 4 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
< 77 2 13		0	0	0	0	0	0	0	0	0	0	0	0	0	0		
DESIGN 77 2 13		80	432	316	432	432	312	132	204	0	0	0	0	0	0		
CDD/TST 77 6 4		0	390	1023	1066	1044	1110	190	568	64	161	4	300	92	2340		
SYS TST 77 12 3		0	0	368	264	152	370	54	192	0	187	0	391	0	6012		
ACC TST 78 2 4		0	0	345	0	80	329	59	170	0	292	0	340	0	1978		
CLEANUP 78 3 18		0	0	54	0	0	51	29	35	0	43	0	80	0	1615		
> 78 4 23		0	0	0	0	0	0	0	0	0	0	0	0	0	292		
TOTAL		80	822	2106	1762	1708	2172	464	1169	64	683	4	1111	92	12237		

Figure 2-21. Resource Summary (Programmer) Hours by Week (RH1) (3 of 3)

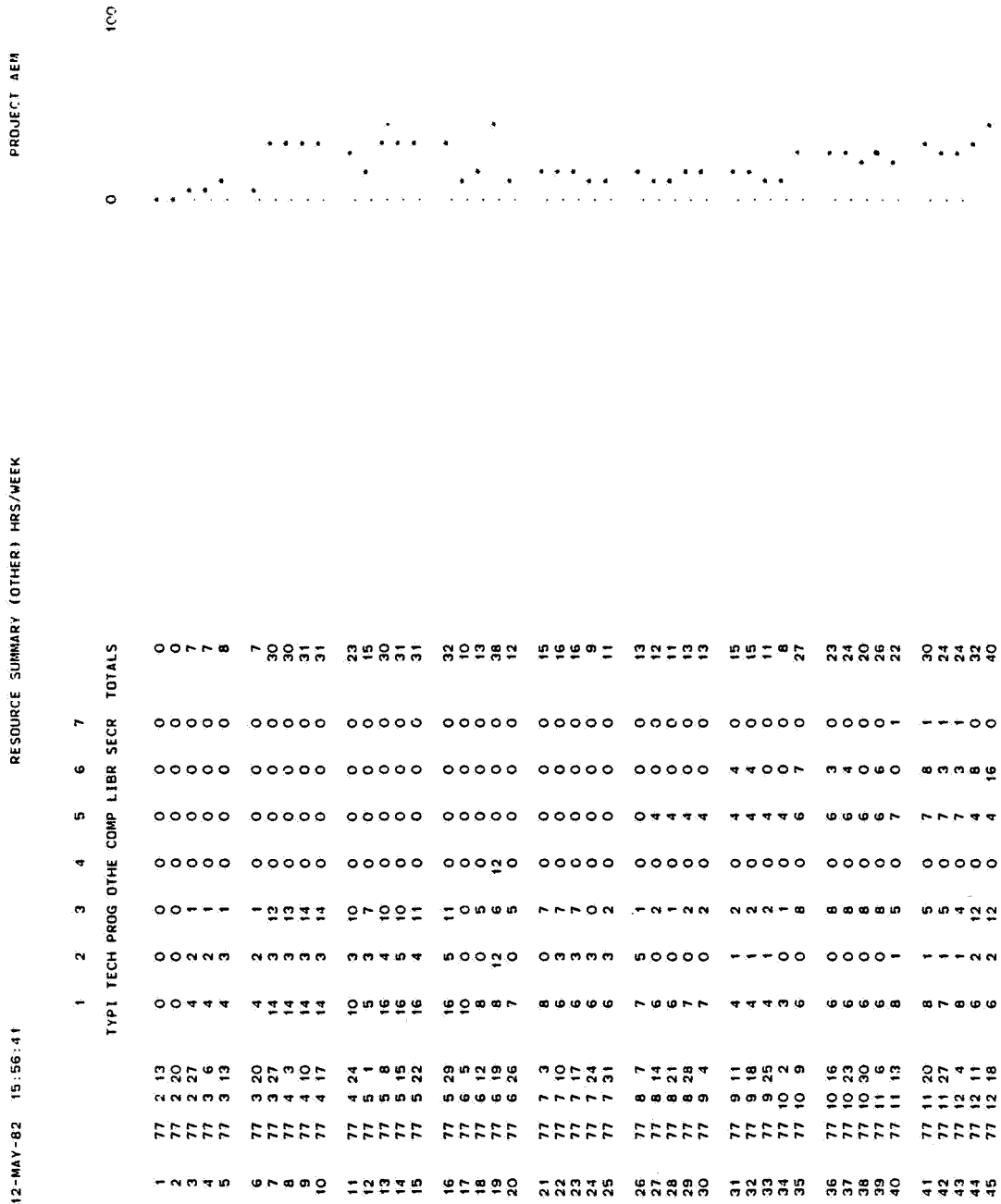


Figure 2-22. Resource Summary (Other) Hours by Week (RH2) (2 of 3)

12-MAY-82 15:56:45		RESOURCE SUMMARY (OTHER) HRS/WEEK										PROJECT AEM	
		1	2	3	4	5	6	7	TOTALS				
		TYP	TECH	PROG	OTHE	COMP	LIBR	SECR					
		6	2	12	0	4	3	0	27				
46	77 12 25	6	2	12	0	4	3	0	27				
47	78 1 1	6	2	12	0	4	2	0	26				
48	78 1 8	3	1	5	0	4	2	0	15				
49	78 1 15	3	1	5	0	4	3	0	16				
50	78 1 22	3	1	5	0	4	3	0	16				
51	78 1 29	3	1	5	0	4	2	0	15				
52	78 2 5	4	1	4	0	4	4	0	17				
53	78 2 12	4	3	6	12	2	20	0	47				
54	78 2 19	4	3	7	12	2	10	0	38				
55	78 2 26	4	3	7	12	2	3	0	31				
56	78 3 5	4	4	7	12	4	1	0	32				
57	78 3 12	7	8	6	44	3	0	0	68				
58	78 3 19	7	8	6	44	3	20	1	89				
59	78 3 26	7	8	6	44	4	2	1	72				
60	78 4 2	6	9	6	44	4	30	1	100				
61	78 4 9	0	0	0	0	0	0	0	0				
62	78 4 16	0	0	0	0	0	0	0	0				
63	78 4 23	0	0	0	0	0	0	0	0				
< 77 2 13		0	0	0	0	0	0	0	0				
DESIGN		161	45	117	0	0	0	0	323				
COD/TST		77	6	4	164	36	113	12	461				
SYS TST		77	12	3	40	13	72	0	204				
ACC TST		78	2	4	30	29	39	136	305				
CLEANUP		78	3	18	13	17	12	88	172				
> 78 4 23		0	0	0	0	0	0	0	0				
TOTAL		408	140	353	236	150	171	7	1465				

Figure 2-22. Resource Summary (Other) Hours by Week (RH2) (3 of 3)

12-MAY-82	16:00:40	RESOURCE SUMMARY (COMPUTER) HRS/WEEK			PROJECT AEM
78 PERSON MONTHS		204 MODULES	PHASES	START	END
382 HOURS ON IBM 360		50811 SOURCE LINES	REQUIREMENTS	07/01/0	07/01/0
4604 RUNS (ACCOUNTING REPORT)		1255 CHANGES	DESIGN	77/2/13	77/6/4
			CODE & UNIT TEST	77/6/4	77/12/3
			SYSTEM TEST	77/12/3	78/2/4
			ACCEPTANCE TEST	78/2/4	78/3/18
			CLEANUP	78/3/18	78/4/29
			MAINTENANCE	07/01/0	07/01/0
RESOURCE					
1	IBM = IBM S/360-95				
2	IBM = IBM S/360-75				
3	IBM = IBM S/360-75 C1				

Figure 2-23. Resource Summary (Computer) Hours by Week (RH3) (1 of 3)

12-MAY-82 16:00:51

RESOURCE SUMMARY (COMPT) HRS./WEEK

PROJECT AEM

	1	2	3	IBM	IBM	IBM	TOTALS
1	77	2	13	0	0	0	0
2	77	2	20	0	0	0	0
3	77	2	27	0	0	0	0
4	77	3	6	0	0	0	0
5	77	3	13	0	0	0	0
6	77	3	20	0	0	0	0
7	77	3	27	0	0	0	0
8	77	4	3	0	0	0	0
9	77	4	10	0	0	0	0
10	77	4	17	0	0	0	0
11	77	4	24	0	0	0	0
12	77	5	1	0	0	0	0
13	77	5	8	0	0	0	0
14	77	5	15	0	0	0	0
15	77	5	22	0	0	0	0
16	77	5	29	0	0	0	0
17	77	6	5	1	0	0	1
18	77	6	12	1	0	0	1
19	77	6	19	2	0	0	2
20	77	6	26	2	0	0	2
21	77	7	3	4	0	0	4
22	77	7	10	4	0	0	4
23	77	7	17	5	0	0	5
24	77	7	24	5	0	0	5
25	77	7	31	5	0	0	5
26	77	8	7	5	0	0	5
27	77	8	14	5	0	0	5
28	77	8	21	5	0	0	5
29	77	8	28	7	3	0	10
30	77	9	4	7	3	0	10
31	77	9	11	5	5	0	10
32	77	9	18	5	5	0	10
33	77	9	25	6	4	0	10
34	77	10	2	6	4	0	10
35	77	10	9	5	8	0	13
36	77	10	16	5	2	0	7
37	77	10	23	5	2	0	7
38	77	10	30	5	2	0	7
39	77	11	6	5	2	0	7
40	77	11	13	4	3	0	7
41	77	11	20	4	3	0	7
42	77	11	27	4	3	0	7
43	77	12	4	4	3	0	7
44	77	12	11	4	3	0	7
45	77	12	18	5	3	0	8

Figure 2-23. Resource Summary (Computer) Hours by Week (RH3) (2 of 3)

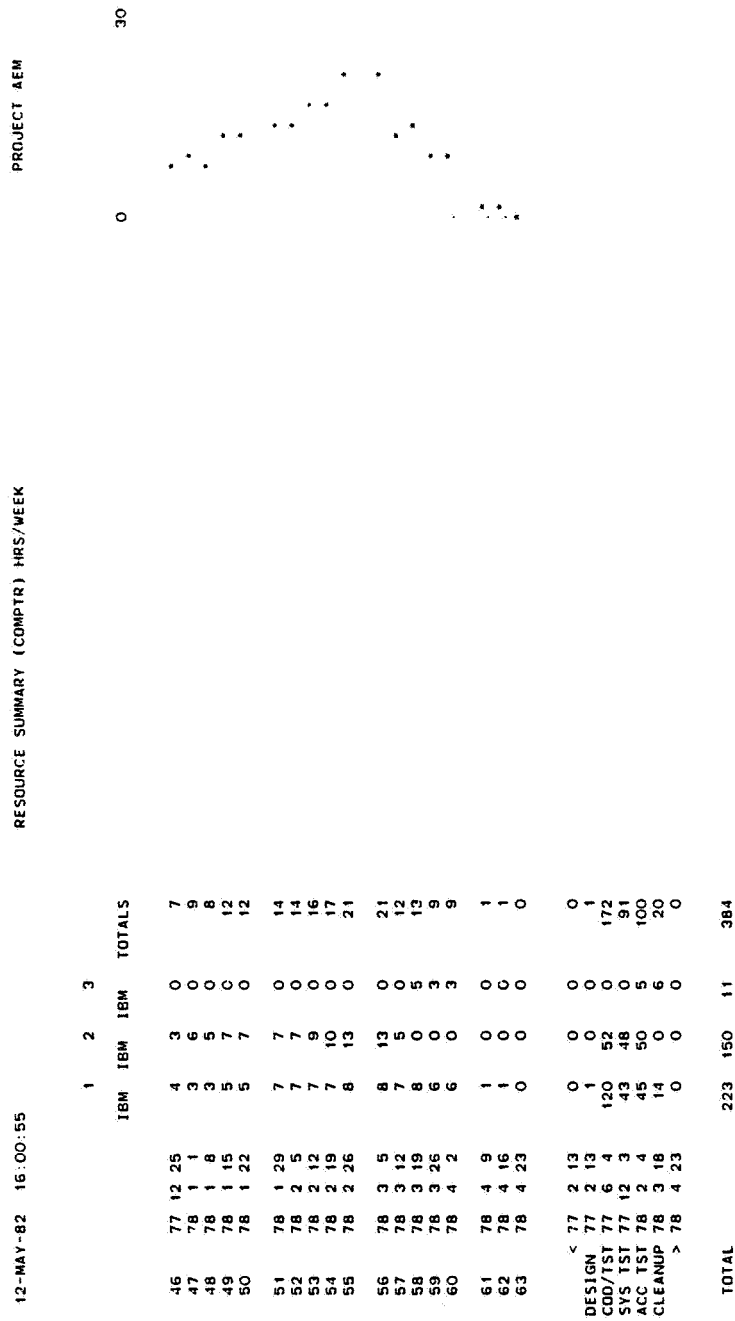


Figure 2-23. Resource Summary (Computer) Hours by Week (RH3) (3 of 3)

13-MAY-82	13:36:08	RESOURCE SUMMARY PERSON COUNT			PROJECT AEM
78 PERSON MONTHS	201 MODULES	PHASES			END
382 HOURS ON IBM 360	50911 SOURCE LINES	REQUIREMENTS			O/ O/ O
4604 RUNS (ACCOUNTING REPORT)	1255 CHANGES	DESIGN			77/ 6/ 4
		CODE & UNIT TEST			77/ 6/ 4
		SYSTEM TEST			77/12/ 3
		ACCEPTANCE TEST			78/ 2/ 4
		CLEANUP			78/ 3/18
		MAINTENANCE			78/ 4/29
					O/ O/ O

RESOURCE

- 1 WIJN = WIJNBERG
- 2 LEGG = LEGG
- 3 SPEN = SPENCE
- 4 KUTC = KUTCHER
- 5 WYCK = WYCKOFF
- 6 STAR = STARR
- 7 MCGA = MCGARRY
- 8 DAVE = DAVENPORT
- 9 SHEA = SHEAR
- 10 PAGE = PAGE
- 11 HOOV = HOOVER
- 12 ERIC = ERICKSON
- 13 MAJO = MAJOR

Figure 2-24. Resource Summary Person Count by Week (RP) (1 of 3)

13-MAY-82 13:36:11		RESOURCE SUMMARY PERSON COUNT														PROJECT AEM	
		1	2	3	4	5	6	7	8	9	10	11	12	13	TOTALS	0	10
		WIJN	LEGG	SPEN	KUTC	WYCK	STAR	MCQA	DAVE	SHEA	PAGE	HOOV	ERIC	MAJID			
1	77 2 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.
2	77 2 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.
3	77 2 27	1	1	1	1	1	1	1	1	1	1	1	1	1	8	.	.
4	77 3 6	1	1	1	1	1	1	1	1	1	1	1	1	1	8	.	.
5	77 3 13	1	1	1	1	1	1	1	1	1	1	1	1	1	8	.	.
6	77 3 20	1	1	1	1	1	1	1	1	1	1	1	1	1	8	.	.
7	77 3 27	1	1	1	1	1	1	1	1	1	1	1	1	1	8	.	.
8	77 4 3	1	1	1	1	1	1	1	1	1	1	1	1	1	8	.	.
9	77 4 10	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
10	77 4 17	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
11	77 4 24	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
12	77 5 1	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
13	77 5 8	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
14	77 5 15	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
15	77 5 22	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
16	77 5 29	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
17	77 6 5	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
18	77 6 12	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
19	77 6 19	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
20	77 6 26	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
21	77 7 3	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
22	77 7 10	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
23	77 7 17	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
24	77 7 24	0	1	1	1	1	1	1	1	1	1	1	1	1	7	.	.
25	77 7 31	0	1	1	1	1	1	1	1	1	1	1	1	1	10	.	.
26	77 8 7	0	1	1	1	1	1	1	1	1	1	1	1	1	10	.	.
27	77 8 14	0	1	1	1	1	1	1	1	1	1	1	1	1	10	.	.
28	77 8 21	0	1	1	1	1	1	1	1	1	1	1	1	1	10	.	.
29	77 8 28	0	1	1	1	1	1	1	1	1	1	1	1	1	10	.	.
30	77 9 4	0	1	1	1	1	1	1	1	1	1	1	1	1	10	.	.
31	77 9 11	0	1	1	1	1	1	1	1	1	1	1	1	1	10	.	.
32	77 9 18	0	1	1	1	1	1	1	1	1	1	1	1	1	10	.	.
33	77 9 25	0	1	1	1	1	1	1	1	1	1	1	1	1	10	.	.
34	77 10 2	0	0	1	1	1	1	1	1	1	1	1	1	1	9	.	.
35	77 10 9	0	0	1	1	1	1	1	1	1	1	1	1	1	6	.	.
36	77 10 16	0	0	1	1	1	1	1	1	1	1	1	1	1	9	.	.
37	77 10 23	0	0	1	1	1	1	1	1	1	1	1	1	1	9	.	.
38	77 10 30	0	0	1	1	1	1	1	1	1	1	1	1	1	9	.	.
39	77 11 6	0	0	1	1	1	1	1	1	1	1	1	1	1	9	.	.
40	77 11 13	0	0	1	1	1	1	1	1	1	1	1	1	1	9	.	.
41	77 11 20	0	0	1	1	1	1	1	1	1	1	1	1	1	9	.	.
42	77 11 27	0	0	1	1	1	1	1	1	1	1	1	1	1	9	.	.
43	77 12 4	0	0	1	1	1	1	1	1	1	1	1	1	1	9	.	.
44	77 12 11	0	0	1	1	1	1	1	1	1	1	1	1	1	8	.	.
45	77 12 18	0	0	1	1	1	1	1	1	1	1	1	1	1	8	.	.

Figure 2-24. Resource Summary Person Count by Week (RP) (2 of 3)

13-MAY-82 13:36:12		RESOURCE SUMMARY PERSON COUNT													PROJECT AEM		
		1	2	3	4	5	6	7	8	9	10	11	12	13	TOTALS	0	10
		WIJN	LEGG	SPEN	KUTC	WYCK	STAR	MCGA	DAVE	SHEA	PAGE	HOOV	ERIC	MAJO			
46	77 12 25	0	0	1	1	1	1	1	1	0	0	1	0	1	0	7	
47	78 1 1	0	0	1	1	1	1	1	1	0	1	0	1	0	0	8	
48	78 1 8	0	0	1	1	1	1	1	1	0	1	0	1	0	0	8	
49	78 1 15	0	0	1	1	1	1	1	1	0	1	0	1	0	0	8	
50	78 1 22	0	0	1	1	1	1	1	1	0	1	0	1	0	0	8	
51	78 1 29	0	0	1	0	1	1	1	1	0	1	0	1	0	0	7	
52	78 2 5	0	0	1	0	1	1	1	1	0	1	0	1	0	0	7	
53	78 2 12	0	0	1	0	1	1	1	1	0	1	0	1	0	0	7	
54	78 2 19	0	0	1	0	1	1	1	1	0	1	0	1	0	0	7	
55	78 2 26	0	0	1	0	1	1	1	1	0	1	0	1	0	0	7	
56	78 3 5	0	0	1	0	1	1	1	1	0	1	0	1	0	0	7	
57	78 3 12	0	0	1	0	1	1	1	1	0	1	0	1	0	0	7	
58	78 3 19	0	0	1	0	0	1	1	1	0	1	0	1	0	0	6	
59	78 3 26	0	0	1	0	0	1	1	1	0	1	0	1	0	0	6	
60	78 4 2	0	0	1	0	0	1	1	1	0	1	0	1	0	0	6	
61	78 4 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
62	78 4 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
63	78 4 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
< 77 2 13		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DESIGN	77 2 13	6	15	15	15	15	15	15	15	0	0	0	0	0	0	111	
COD/TST	77 6 4	0	16	26	26	26	26	25	10	19	10	8	8	8	8	226	
SYS TST	77 12 3	0	0	9	7	9	9	9	8	0	9	0	9	0	0	69	
ACC TST	78 2 4	0	0	6	0	5	6	6	6	0	6	0	6	0	0	41	
CLEANUP	78 3 18	0	0	2	0	0	2	2	2	0	2	0	2	0	0	12	
> 78 4 23		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL		6	31	58	48	55	58	58	56	10	36	10	25	8	459		

Figure 2-24. Resource Summary Person Count by Week (RP) (3 of 3)

2-93

Figure 2-25. Resource Summary Run Count by Week (RR) (1 of 3)

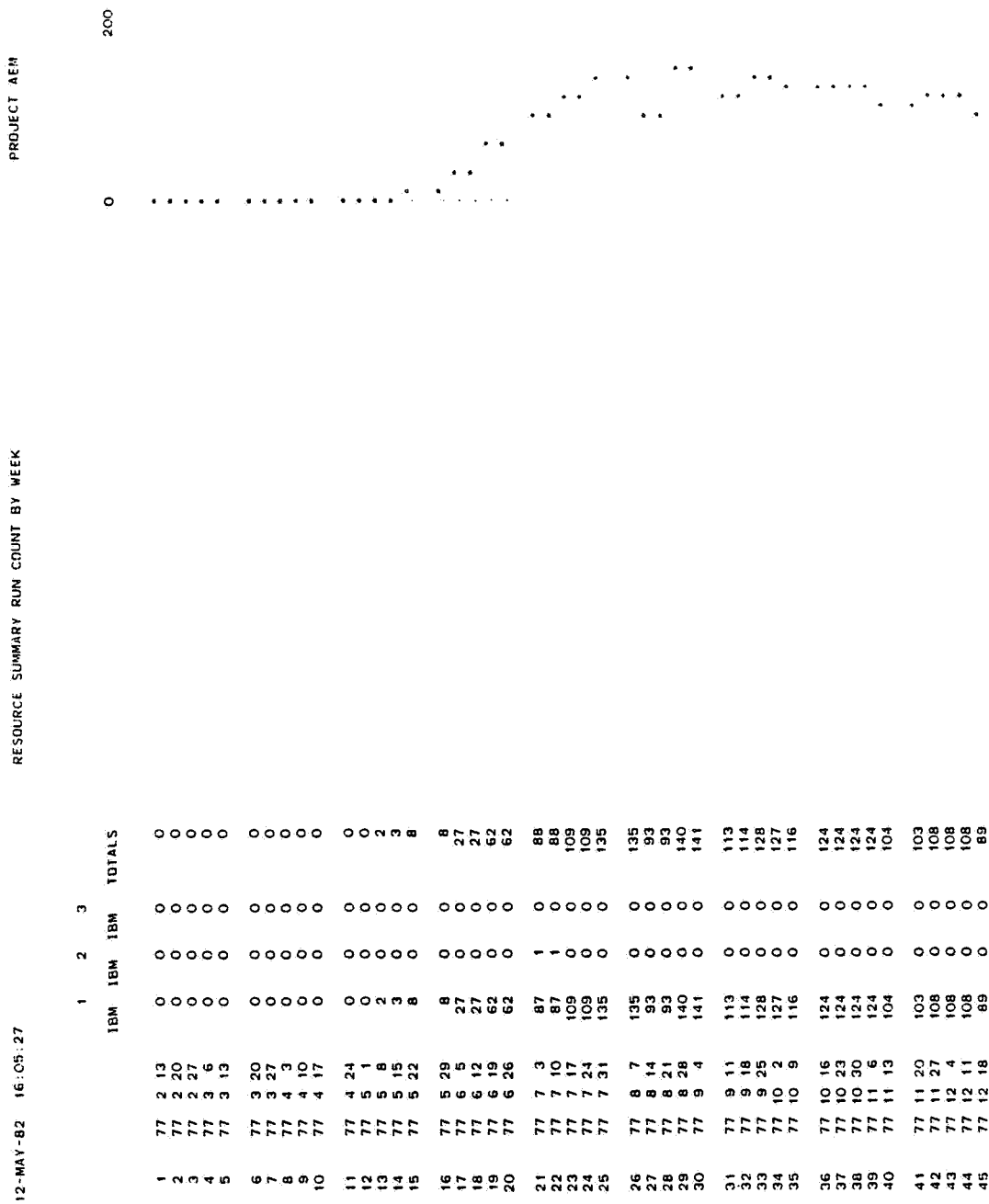


Figure 2-25. Resource Summary Run Count by Week (RR) (2 of 3)

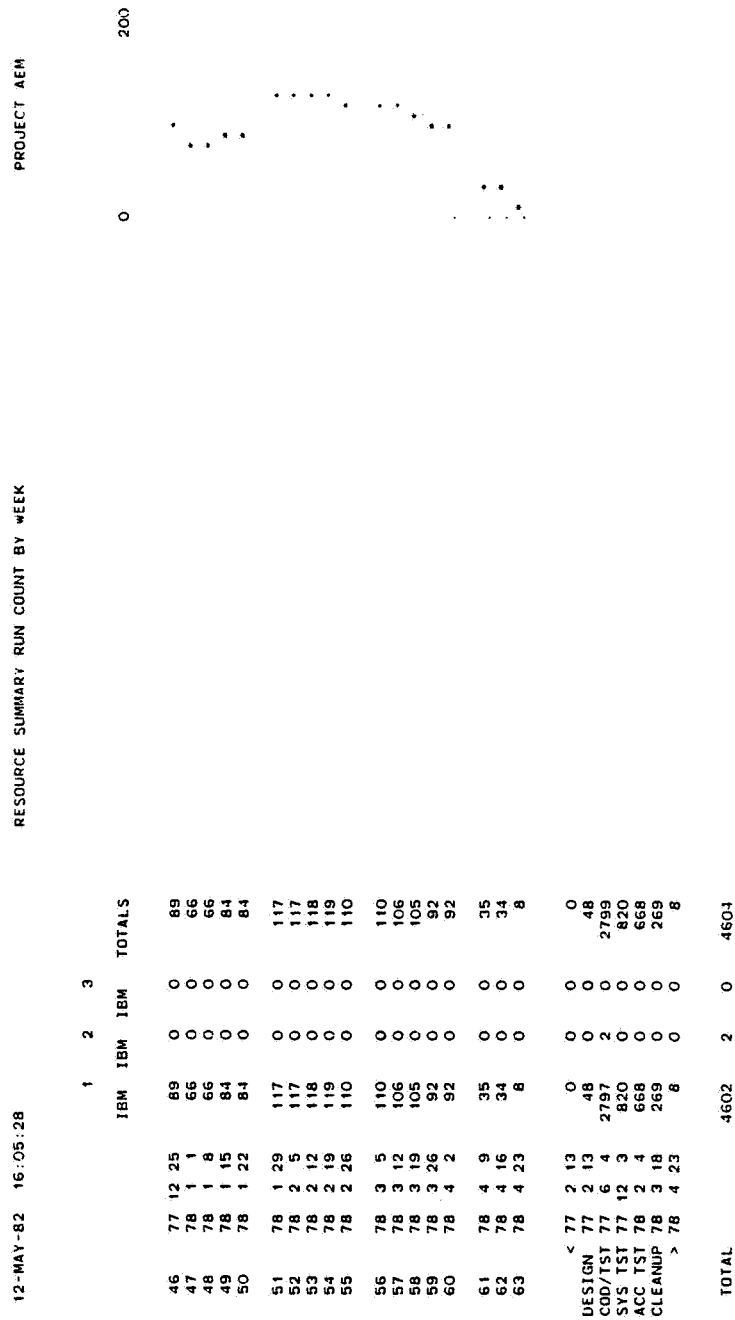


Figure 2-25. Resource Summary Run Count by Week (RR) (3 of 3)

```

13-MAY-82  15:18:49      RUN ANALYSIS FORM COUNT BY WEEK      PROJECT SEASAT

90 PERSON MONTHS
402 HOURS ON IBM 360
7500 RUNS (ACCOUNTING REPORT)

535 MODULES
75393 SOURCE LINES
2107 CHANGES

PHASES
REQUIREMENTS
DESIGN
CODE & UNIT TEST
SYSTEM TEST
ACCEPTANCE TEST
CLEANUP
MAINTENANCE

START      END
O/ O/ O
77/ 4/ 1
77/ 7/30
78/ 1/11
78/ 2/18
78/ 4/15
78/ 6/21
O/ O/ O

RESOURCE

1  WOOD = WOOD
2  CAMI = CAMILLO
3  CHU  = CHU
4  BALD = BALDRIDGE
5  NELS = NELSON
6  PINK = PINKSTON
7  NEAL = NEAL
8  SARA = SARALKAR
9  BALD = BALDRIDGE

```

Figure 2-26. Run Analysis Form Count by Week (AWL) (1 of 3)

13-MAY-82 15:18:53		RUN ANALYSIS FORM COUNT BY WEEK										PROJECT SEASAT	
		1	2	3	4	5	6	7	8	9	TOTALS	O	7
		WOOD	CAMI	CHU	BALD	NELS	PINK	NEAL	SARA	BALD			
1	77 4 1	0	0	0	0	0	0	0	0	0	0	.	.
2	77 4 8	0	0	0	0	0	0	0	0	0	0	.	.
3	77 4 15	0	0	0	0	0	0	0	0	0	0	.	.
4	77 4 22	0	0	0	0	0	0	0	0	0	0	.	.
5	77 4 29	0	0	0	0	0	0	0	0	0	0	.	.
6	77 5 6	0	0	0	0	0	0	0	0	0	0	.	.
7	77 5 13	0	0	0	0	0	0	0	0	0	0	.	.
8	77 5 20	0	0	0	0	0	0	0	0	0	0	.	.
9	77 5 27	0	0	0	0	0	0	0	0	0	0	.	.
10	77 6 3	0	0	0	0	0	0	0	0	0	0	.	.
11	77 6 10	0	0	0	0	0	0	0	0	0	0	.	.
12	77 6 17	0	0	0	0	2	0	0	0	0	0	.	.
13	77 6 24	0	0	0	0	0	0	0	0	0	0	.	.
14	77 7 1	0	0	0	0	1	0	0	0	0	0	.	.
15	77 7 8	0	0	0	0	0	0	0	0	0	0	.	.
16	77 7 15	0	0	0	0	0	0	0	0	0	0	.	.
17	77 7 22	0	0	0	0	0	0	0	0	0	0	.	.
18	77 7 29	1	0	1	0	1	0	0	0	0	0	.	.
19	77 8 5	0	0	1	1	0	0	0	0	0	0	.	.
20	77 8 12	1	2	2	0	0	0	2	0	0	0	.	.
21	77 8 19	2	1	0	1	0	0	0	0	0	0	.	.
22	77 8 26	0	2	1	2	0	0	1	0	0	0	.	.
23	77 9 2	0	1	1	1	0	2	1	0	0	0	.	.
24	77 9 9	0	1	1	1	0	1	0	0	0	0	.	.
25	77 9 16	0	0	1	2	0	2	0	0	0	0	.	.
26	77 9 23	0	2	0	1	0	2	1	0	0	0	.	.
27	77 9 30	0	0	0	1	0	1	0	0	0	0	.	.
28	77 10 7	0	0	0	1	2	0	0	1	0	0	.	.
29	77 10 14	0	0	1	1	0	3	1	0	0	0	.	.
30	77 10 21	0	0	2	0	0	2	2	0	0	0	.	.
31	77 10 28	0	0	1	0	0	1	2	0	0	0	.	.
32	77 11 4	0	0	2	1	0	2	1	0	0	0	.	.
33	77 11 11	0	0	0	1	0	1	0	0	0	0	.	.
34	77 11 18	0	0	1	1	0	1	1	2	0	0	.	.
35	77 11 25	0	0	0	0	0	0	1	0	0	1	.	.
36	77 12 2	0	1	1	2	0	0	1	0	0	0	.	.
37	77 12 9	0	1	2	1	0	0	0	1	0	0	.	.
38	77 12 16	0	0	1	0	0	1	1	1	0	0	.	.
39	77 12 23	0	0	1	1	0	0	1	0	0	0	.	.
40	77 12 30	0	0	0	0	0	0	0	1	0	1	.	.
41	78 1 6	0	1	1	0	0	0	0	1	2	0	.	.
42	78 1 13	0	0	2	0	0	0	0	1	1	0	.	.
43	78 1 20	0	1	1	0	0	0	0	1	2	0	.	.
44	78 1 27	0	0	1	0	0	0	0	3	1	0	.	.
45	78 2 3	0	0	1	0	0	0	0	1	4	0	.	.

Figure 2-26. Run Analysis Form Count by Week (AW1) (2 of 3)

13-MAY-82 15:18:54		RUN ANALYSIS FORM COUNT BY WEEK										PROJECT SEASAT	
		1	2	3	4	5	6	7	8	9	TOTALS	0	7
		WOOD	CAMI	CHU	BALD	NELS	PINK	NEAL	SARA	BALD			
46	78 2 10	0	0	1	0	0	0	0	1	3	0	0	5
47	78 2 17	0	0	2	0	0	0	0	1	4	0	0	7
48	78 2 24	0	0	0	0	0	0	0	1	5	1	0	7
49	78 3 3	0	0	0	0	0	0	0	0	4	0	0	4
50	78 3 10	0	0	0	0	0	0	0	0	4	0	0	4
51	78 3 17	0	0	0	0	0	0	0	0	6	0	0	6
52	78 3 24	0	0	0	0	0	0	0	0	3	0	0	3
53	78 3 31	0	0	0	0	0	0	0	0	3	0	0	3
54	78 4 7	0	0	0	0	0	0	0	0	2	0	0	2
55	78 4 14	0	0	0	0	0	0	0	0	2	0	0	2
56	78 4 21	0	0	0	0	0	0	0	0	0	0	0	0
57	78 4 28	0	0	0	0	0	0	0	0	0	0	0	0
58	78 5 5	0	0	0	0	0	0	0	0	0	0	0	0
59	78 5 12	0	0	0	0	0	0	0	0	0	0	0	0
60	78 5 19	0	0	0	0	0	0	0	0	0	0	0	0
61	78 5 26	0	0	0	0	0	0	0	0	0	0	0	0
62	78 6 2	0	0	0	0	0	0	0	0	0	0	0	0
63	78 6 9	0	0	0	0	0	0	0	0	0	0	0	0
64	78 6 16	0	0	0	0	0	0	0	0	0	0	0	0
65	78 6 23	0	0	0	0	0	0	0	0	0	0	0	0
< 77 4 1		0	0	0	0	0	0	0	0	0	0	0	0
DESIGN 77 4 1		1	2	2	1	4	0	0	0	0	0	0	10
COD/TST 77 7 30		3	12	23	20	0	22	17	8	0	0	105	
SYS TST 78 1 14		0	1	6	0	0	0	0	7	15	0	29	
ACC TST 78 2 18		0	0	0	0	0	0	0	1	28	1	30	
CLEANUP 78 4 15		0	0	0	0	0	0	0	0	0	0	0	
> 78 6 23		0	0	0	0	0	0	0	0	0	0	0	
TOTAL		4	15	31	21	4	22	25	51	1	174		

Figure 2-26. Run Analysis Form Count by Week (AW1) (3 of 3)

13-MAY-82 15:36:41

90 PERSON MONTHS	535 MODULES	PHASES	START	END
402 HOURS ON IBM 360	75393 SOURCE LINES	REQUIREMENTS	0/ 0/ 0	0/ 0/ 0
7500 RUNS (ACCOUNTING REPORT)	2107 CHANGES	DESIGN	77/ 4/ 1	77/ 7/30
		CODE & UNIT TEST	77/ 7/30	78/ 1/14
		SYSTEM TEST	78/ 1/14	78/ 2/18
		ACCEPTANCE TEST	78/ 2/18	78/ 4/15
		CLEANUP	78/ 4/15	78/ 6/24
		MAINTENANCE	0/ 0/ 0	0/ 0/ 0

PROJECT SEASAT

RESOURCE

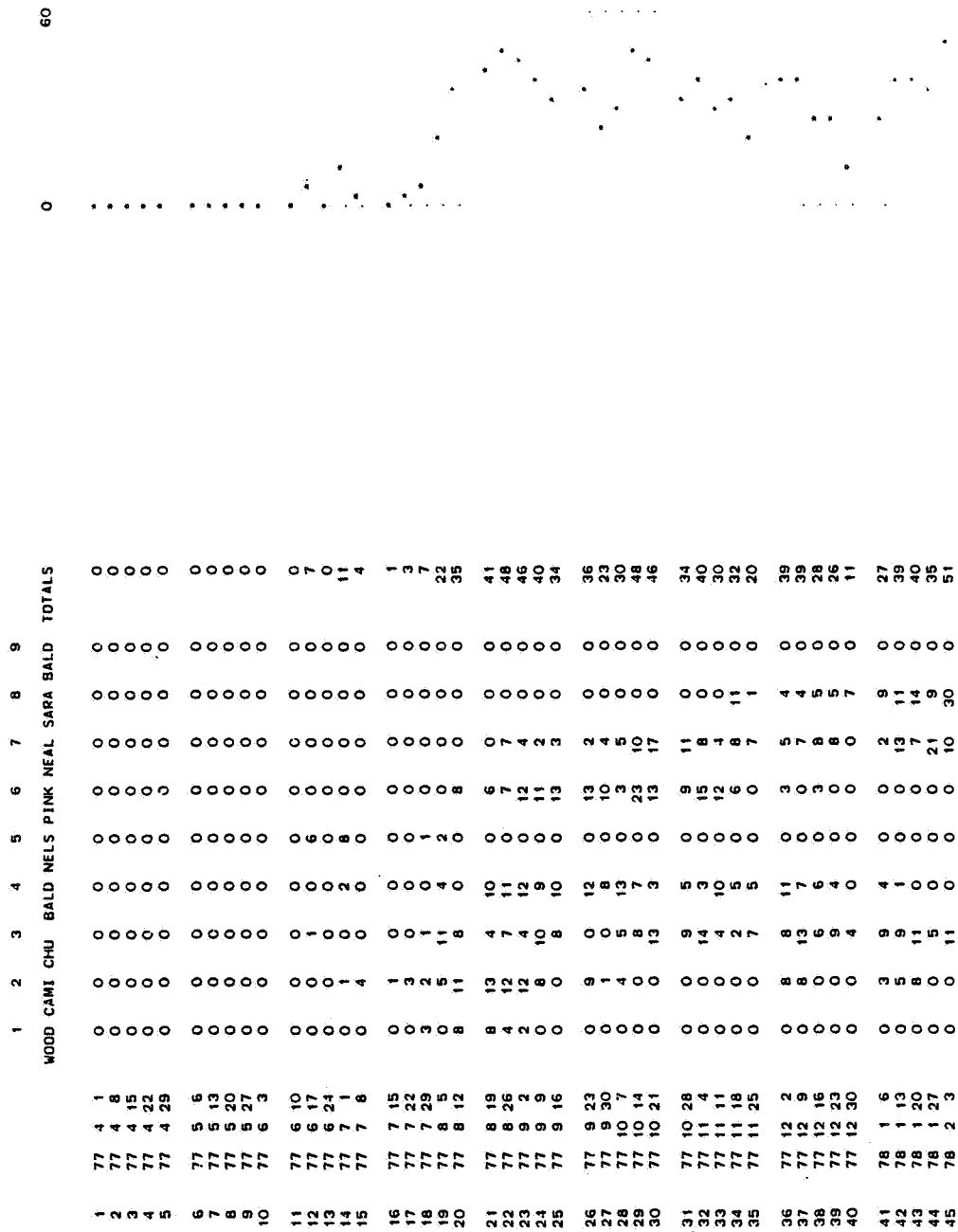
1	WOOD = WOOD
2	CAMI = CAMILLO
3	CHU = CHU
4	BALD = BALDRIDGE
5	NELS = NELSON
6	PINK = PINKSTON
7	NEAL = NEAL
8	SARA = SARALKAR
9	BALD = BALDRIDGE

Figure 2-27. Run Analysis Run Count by Week (AW2) (1 of 3)

13-MAY-82 15:36:44

RUN ANALYSIS RUN COUNT BY WEEK

PROJECT SEASAT



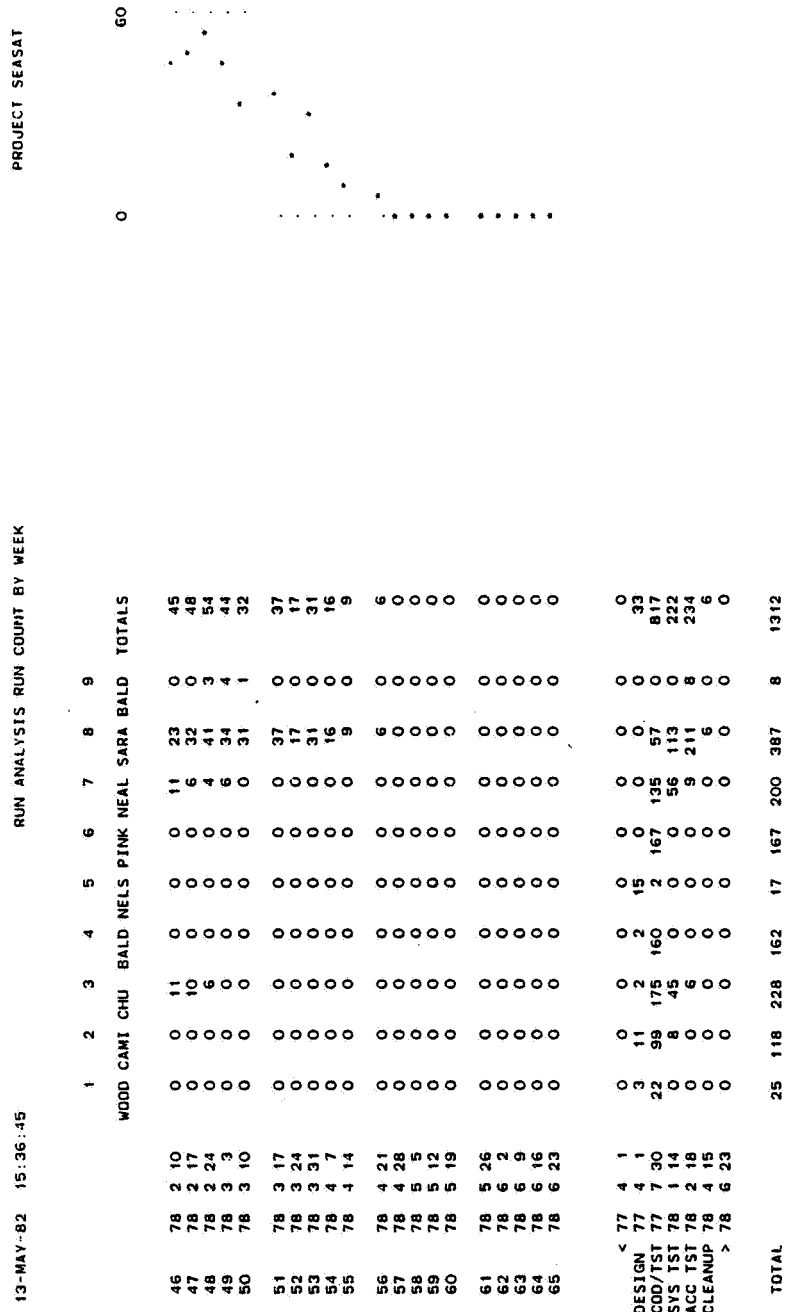


Figure 2-27. Run Analysis Run Count by Week (AW2) (3 of 3)

2.5 COMPONENT INFORMATION REPORT BY FUNCTION TYPE PROGRAM (REP4) AND ITS PREPROCESSOR, THE CHANGE AND ERROR ACCUMULATION PROGRAM (CG)

2.5.1 INTRODUCTION

2.5.1.1 Function and Purpose

The Component Information Report by Function Type Program (REP4) produces a list of components and associated data for a given project. This list is organized by the function type of the components. For each function type, the components are sorted in order by the number of executable statements. The five basic function types of the components are as follows:

<u>Type Letter</u>	<u>Description</u>
A	I/O
B	Control/driver
C	Control/computational
D	Data transfer
E	BLOCK DATA.

Some components are described as combinations of two types. For example, a control/driver component with I/O would be classified as BA.

To run the REP4 program, the Change and Error Accumulation Program (CG) must be executed in advance. The CG program accumulates change and error data for all components from the CRF file of the given project and writes these data to an intermediate file read by the REP4 program. Sample output from these programs is given in Section 2.5.4.

2.5.1.2 System Resources

Both the CG and REP4 programs are implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a lineprinter, and a disk. The terminal acts both as an input and an

output message device when the user interacts with these programs. Input to the programs consists of user-entered options, the selected SEL data base files, and, for the REP4 program, the intermediate file produced by the CG program. The SEL data base and the CG intermediate file are stored on disk and are on line to the PDP-11/70. The output report is stored by the REP4 program on disk and may be directed to the lineprinter by the user after the program terminates.

2.5.1.3 Approximate Run Time

The normal execution time of the CG and REP4 programs depends on the sizes of the CIF and the CRF file for the given project. The approximate execution times (wall-clock times) for several projects having CIFs and CRF files of various sizes are listed below.

<u>Project Name</u>	<u>Number of Records in CIF</u>	<u>Number of Records in CRF File</u>	<u>Execution Time (Minutes)</u>
AADSIM	213	125	4.5
AEM	415	290	8.5
ISEEC	539	240	11.0
DEA	530	964	22.0

2.5.1.4 Error Messages

The CG program provides the following error messages (where the Xs are replaced with their actual values):

```

COMPONENT CODE NOT FOUND:  XXX
XXXX COMPONENTS NOT FOUND, SEE FILE FOR006.DAT
NO COMPONENTS IDENTIFIED
OUTPUT ARRAY SIZE HAS EXCEEDED
ERROR IN OPENING CRF FILE.  NO CHANGE FILE CREATED FOR
PROJECT XXXXXXXXX

```

ERROR IN OPENING CIF FILE. NO CHANGE FILE CREATED FOR
PROJECT XXXXXXXX
ERROR IN READING CRF RECORD

The error messages of REP4 program are listed below (where the Xs are placed with the actual values):

ERROR IN OPENING CIF FILE: XXXXXXXXXXXXXXXXXXXXXXXX
ERROR IN READING CIF RECORD

2.5.1.5 Restrictions/Relation to Other Software

The REP4 program requires an intermediate data file containing the number of changes and errors for all components of the given project. This intermediate data file is produced by the CG program; thus, this program must be run before the REP4 program.

There is one restriction in executing the CG program: the maximum number of components contained in the intermediate output file is 500. If this number is exceeded, the following message will appear on the user's terminal: OUTPUT ARRAY SIZE HAS EXCEEDED. The intermediate file produced by the CG program is also required by the Component Information Report Program (REP5) (Section 2.6).

2.5.2 PROGRAM INVOCATION

The CG program must be executed first. The user can initiate the program by logging onto the UIC and entering the following command on the user's terminal:

RUN [204,5]CG

After the execution of the CG program is complete, the user may then invoke the REP4 program by entering the following command on the user's terminal:

RUN [204,5]R4

2.5.3 PROGRAM OPERATION

After invoking the CG program, the user will be prompted for the project name. The CG intermediate file, <PRJNAM>.CHN, where <PRJNAM> is the name of the selected project, is then produced. To terminate the CG program, the user enters ^Z (control Z) in response to any prompt.

After exiting from the CG program, the user should print the CG intermediate file on the terminal or the lineprinter. The REP4 program requires the user to enter the two-character subsystem prefixes. These prefixes may be obtained by examining the first two characters of the component names given in the CG intermediate file. In addition to the CG intermediate file, another output file, FOR006.DAT, will also be produced. This file contains a list of all component names encountered in the CRF file that were not found on the CIF for the given project. This file should also be listed by the user for informational purposes.

After the REP4 program is invoked, the user will be prompted for the project name and the prefix of the selected subsystem. The user should enter the same project name as entered for the CG program. For the prefix of the subsystem, the user must enter the two-character subsystem prefix for which a report is desired. After processing the selected subsystem, the REP4 program returns to the prompt for the subsystem prefix. When the user has processed all desired subsystems, ^Z (control Z) should be entered in response to this prompt to terminate the execution of the REP4 program. The REP4 output report is contained in the file <PRJNAM>.RP4, where <PRJNAM> is the name of the selected project. The user may print the output report after the execution of REP4 is complete by using the PRINT command; for example

```
PRINT <PRJNAM>.RP4
```

where <PRJNAM> is the name of the selected project.

2.5.4 SAMPLE OUTPUT

Figure 2-28 is a listing of the CG intermediate file for project AEM. The file contains one record for each component encountered in the project's CRF file. Each record contains the component name, number of changes, and number of errors in the A8, 2I4 format. The change and error counts are accumulated from the CRF file for the given project.

Figure 2-29 shows the report produced by the REP4 program for project AEM. The first page contains a description of abbreviations used throughout the report. The report for each selected subsystem then follows. For each subsystem, the report is divided into five sections based on function type of the components (modules), as follows:

<u>Type Letter</u>	<u>Description</u>
A	I/O
B	Control/driver
C	Control/computational
D	Data transfer
E	BLOCK DATA

Some components are classified as combinations of two types and are listed in both sections of the report. For example, a control/computational module with I/O would be classified as CA and would appear in both the section for control/computational modules and the section for I/O modules.

Within function sections, components are listed in decreasing order by number of executable statements. The statistics listed for each component are described on page 1 of the report. At present, all complexity data are shown as -9.999 because the routine that computes complexity figures is not implemented. The percentage of IF and .IF statements and the percentage of DO and DOWHILE statements are shown as 0.0 because the number of IF statements and the number of DO statements are not included on the CIF.

TPTPNLRD	3	0	1
NLTPNAM1	1	0	2
NLTPNAM2	1	0	3
TPFFINOUT	1	1	4
KKBLOCKD	1	2	5
ADBLKDAT	2	0	6
SYAEMDRI	1	3	7
DASMTHOT	2	5	8
DACROSLT	0	2	9
DAVOLRED	6	17	10
DAFLAG	1	5	11
DAREDPIT	1	6	12
DAREDRLL	1	2	13
ADSUNDAT	1	1	14
DAMATINT	1	1	15
ADATTFIT	4	4	16
TPTMDRIV	1	3	17
DADATADJ	8	3	18
ADATTDET	5	2	19
SYLGDRIV	1	0	20
TPEMDOUT	2	2	21
TPWSDOUT	0	2	22
ADATTERR	3	1	23
ADATTCMS	1	1	24
ADADWGHT	2	0	25
ADDISATT	4	3	26
LGLOG	5	3	27
LGBDLOG	3	0	28
LGHISTRY	2	1	29
LGLGNLRD	3	0	30
LGLOGSOL	2	0	31
TPQCKCVT	2	0	32
TPQSCALE	1	0	33
DASELECT	2	2	34
DASUNNUL	6	1	35
DABMAG	3	4	36
DAEPHEMS	3	9	37
DAVALDTE	6	4	38
DASMTHVL	2	5	39
DAMAGORB	1	2	40
DADOTTST	5	6	41
DAZENBCD	1	0	42
ADDRECUR	4	6	43
ADRECUR1	1	1	44
ADDYNMOD	1	2	45
ADQLTYDC	3	2	46
ADKMAT	1	2	47
ADADDGMG	2	3	48
KLJFCBRD	0	1	49
ADADSOLN	1	1	50
TPCKQLTY	2	0	51
TPCKQLT1	2	0	52
TPCONVRT	2	0	53
TPDAREAD	2	0	54
TPELECON	2	0	55

Figure 2-28. CG Intermediate File for Project AEM
(AEM.CHN) (1 of 3)

IBINTGER	1	1	56
IBINTERN	0	1	57
ICBUGSET	0	2	58
ICEXEC	0	1	59
ICPRINTV	2	1	60
ICPRDATA	1	2	61
ICGETSOL	1	1	62
ICCOPYM	1	1	63
IBHELPC	2	0	64
ICGETCMD	2	0	65
IBRDLINE	2	0	66
IBFINCMD	1	0	67
ICSTOREV	1	0	68
TPUNPACK	0	1	69
TPQLOOK	0	1	70
TPSEARCH	0	1	71
ADWRMAGB	1	1	72
ADBDYAQU	4	2	73
ADQLTYDS	1	6	74
ADTKMAT	1	0	75
DASCNWHL	7	3	76
DASCANRD	3	2	77
DAPREAVG	0	1	78
DAMAGCAL	1	2	79
DABLOCKD	2	2	80
DAOUTPUT	2	1	81
DAMAGNUL	4	4	82
DADANLRD	3	0	83
ICDATFMT	0	1	84
ICLISTV	0	1	85
ICTITLE	0	1	86
IBMAKTIM	0	1	87
TPRDUNCV	1	0	88
TPSKIPMF	1	0	89
ADATTANG	0	1	90
ADMGBIAS	1	1	91
ADADNLRD	3	0	92
DASSPLOT	2	9	93
DASUNSEN	1	1	94
CMSCBIAS	0	1	95
DAHORRD	3	1	96
DAALTRD	3	3	97
DACHEBY	0	2	98
DAINRT	1	1	99
DASCSDS	2	3	100
DASHFTER	1	1	101
DACORRCT	3	1	102
DARMAT	1	0	103
DADERCMP	1	2	104
DATHGHT	1	0	105
DANOVOL	1	1	106
DASUNBOD	0	1	107
DASUNFOV	0	2	108
DAEPH2	0	1	109
DAMOVADJ	0	1	110

Figure 2-28. CG Intermediate File for Project AEM
(AEM.CHN) (2 of 3)

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[204,11]AEM.CHN

PAGE 3

DADTYCON	1	0	111
SYADDRIV	1	0	112
SYDADRIV	1	0	113
SYTPDRIV	1	0	114
LGWRTLOG	1	0	115
DAVLFLAG	1	0	116
TPRDADL	0	1	117
DAPRCENT	0	1	118
DARDMAGB	1	0	119

Figure 2-28. CG Intermediate File for Project AEM
(AEM.CHN) (3 of 3)

REPORT OF COMPONENTS BY TYPE FOR PROJECT AEM

T	= COMPONENT TYPE
	A - I/O
	B - CONTROL/DRIVER
	C - CONTROL/COMPUTATIONAL
	D - ALGORITHMIC/DATA TRANSFER
	E - BLOCK DATA
PX	* COMPONENT PREFIX
NAME	* COMPONENT NAME
EXEC	* NUMBER OF EXECUTABLE STATEMENTS
TOFT	* PERCENT OF I/O PLUS FORMAT STATEMENTS
CALL	* PERCENT CALLS
FUNC	* PERCENT FUNCTIONS
TOTS	* PERCENT CALLS AND FUNCTIONS
ASGN	* PERCENT ASSIGNMENT STATEMENTS
IFS	* PERCENT IF AND .IF STATEMENTS
DOS	* PERCENT DO AND DOWHILE STATEMENTS
DECS	* PERCENT DECISIONS
CRTEMP	* INTERMEDIATE COMPLEXITY FIGURE
DECFAC	* COMPLEXITY DECISION FACTOR
STRFAC	* COMPLEXITY 'STRUCTUREDNESS' FACTOR
F	* COMPLEXITY STRUCTURE FLAG
CR	* COMPLEXITY RATING
L2 CR	* LOG BASE 2 OF CR
L10 CR	* LOG BASE 10 OF CR
LN CR	* NAT LOG OF CR
CH	* NUMBER OF CHANGES
ERR	* NUMBER OF ERRORS
TOT	* TOTAL NUMBER OF CHANGES AND ERRORS

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (1 of 17)

15:50:55 26-MAY-82

T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DECFA	STRFAC	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	TOT
1	BA	AD	ATTERR	364	69.5	19.5	4.4	23.9	43.1	0.0	0.0	31.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	1	4
2	BA	AD	ATFIT	217	60.8	24.9	4.1	29.0	42.4	0.0	0.0	29.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	4	4	8
3	BA	AD	ADWHT	119	37.0	15.1	7.6	22.7	42.9	0.0	0.0	41.2	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2
4	BA	AD	ATTDET	96	45.8	16.7	14.6	31.2	47.9	0.0	0.0	57.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	5	2	7
5	BA	AD	ATTANG	51	43.1	25.5	19.6	45.1	52.9	0.0	0.0	17.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1
6	BA	AD	WRMAGB	27	118.5	18.5	0.0	18.5	40.7	0.0	0.0	7.4	-9.999	-9.999	3	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2
7	BA	AD	ADNLRD	18	166.7	22.2	0.0	22.2	5.6	0.0	0.0	11.1	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	0	3
1	CA	AD	DISATT	351	9.7	12.0	1.4	13.4	61.8	0.0	0.0	25.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	3	7
2	CA	AD	DRECUR	310	75.8	12.3	13.2	25.5	28.7	0.0	0.0	41.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	4	6	10
3	CA	AD	QLTYDC	244	4.5	1.6	18.4	20.1	84.8	0.0	0.0	13.1	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	2	5
4	CA	AD	QLTYDS	234	4.7	6.8	16.7	23.5	83.8	0.0	0.0	10.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	6	7
5	CA	AD	ADDMG	144	15.3	7.6	17.4	25.0	73.6	0.0	0.0	12.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	3	5
6	CA	AD	ATTCMS	126	61.1	10.3	2.4	12.7	55.6	0.0	0.0	34.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (2 of 17)

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T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DECFA	STRFAC	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	TOT
1	B	AD BDYAOU	92	0.0	23.9	21.7	45.7	55.4	0.0	0.0	25.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	4	2	6
2	B	AD ADNRML	25	0.0	40.0	0.0	40.0	36.0	0.0	0.0	16.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
3	B	AD ADSOLN	20	0.0	50.0	0.0	50.0	15.0	0.0	0.0	40.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2
4	B	AD AMGERR	14	0.0	21.4	0.0	21.4	57.1	0.0	0.0	14.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
5	B	AD MOVEDC	13	0.0	76.9	0.0	76.9	15.4	0.0	0.0	0.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
1	BA	AD ATTERR	364	69.5	19.5	4.4	23.9	43.1	0.0	0.0	31.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	1	4
2	BA	AD ATTFIT	217	60.8	24.9	4.1	29.0	42.4	0.0	0.0	29.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	4	4	8
3	BA	AD ADWHT	119	37.0	15.1	7.6	22.7	42.9	0.0	0.0	41.2	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2
4	BA	AD ATTDET	96	45.8	16.7	14.6	31.2	47.9	0.0	0.0	57.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	5	2	7
5	BA	AD ATTANG	51	43.1	25.5	19.6	45.1	52.9	0.0	0.0	17.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1
6	BA	AD WRNAGE	27	118.5	18.5	0.0	18.5	40.7	0.0	0.0	7.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2
7	BA	AD ADNLRD	18	166.7	22.2	0.0	22.2	5.6	0.0	0.0	11.1	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	0	3

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (3 of 17)

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T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DECFAC	STRFAC	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	TOT
1	C	AD MGBIAS	177	0.0	11.3	5.6	16.9	59.9	0.0	0.0	35.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2
2	C	AD DYNMOD	135	0.0	10.4	3.0	13.3	68.9	0.0	0.0	18.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	2	3
3	C	AD KMAT	65	0.0	0.0	15.4	15.4	93.8	0.0	0.0	4.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	2	3
4	C	AD SUNDAT	22	0.0	13.6	4.5	18.2	40.9	0.0	0.0	13.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2
5	C	AD DRVCNP	21	0.0	0.0	14.3	14.3	61.9	0.0	0.0	23.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
6	C	AD TKMAT	16	0.0	0.0	37.5	37.5	93.7	0.0	0.0	0.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1
7	C	AD ANGDRG	15	0.0	0.0	26.7	26.7	68.7	0.0	0.0	13.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
8	C	AD PRYKM	4	0.0	0.0	75.0	75.0	75.0	0.0	0.0	0.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
1	CA	AD DISATT	351	9.7	12.0	1.4	13.4	61.8	0.0	0.0	25.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	3	7
2	CA	AD DRECUR	310	75.8	12.3	13.2	25.5	28.7	0.0	0.0	41.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	4	6	10
3	CA	AD QLTUDC	244	4.5	1.6	18.4	20.1	84.8	0.0	0.0	13.1	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	2	5
4	CA	AD QLTUDC	234	4.7	6.8	16.7	23.5	83.8	0.0	0.0	10.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	6	7
5	CA	AD ADDGMG	144	15.3	7.6	17.4	25.0	73.6	0.0	0.0	12.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	3	5
6	CA	AD ATTCHS	126	61.1	10.3	2.4	12.7	55.6	0.0	0.0	34.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (4 of 17)

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T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DECFAC	STRFAC	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	TOT
1	D	AD	ATLGIN	71	0.0	0.0	0.0	0.0	0.0	0.0	4.2	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
2	D	AD	RECURI	31	0.0	3.2	0.0	3.2	41.9	0.0	41.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2	0
3	D	AD	SUNVEC	30	0.0	0.0	6.7	6.7	66.7	0.0	10.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
4	D	AD	CNPS	15	0.0	0.0	0.0	0.0	60.0	0.0	33.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
5	D	AD	GMPRD	14	0.0	0.0	0.0	0.0	71.4	0.0	21.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
6	D	AD	DGMPRD	14	0.0	0.0	0.0	0.0	71.4	0.0	21.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
7	D	AD	UNVEC	11	0.0	0.0	9.1	3.1	63.6	0.0	9.1	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
8	D	AD	VCRDSS	4	0.0	0.0	0.0	0.0	75.0	0.0	0.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (5 of 17)

15:51:29 26-MAY-82

T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DECFAC	STRFAC	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	10T
1	A	DA CORRECT	29	189.7	3.4	3.4	6.9	13.8	0.0	0.0	41.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	1	4	
2	A	DA MAGCAL	20	55.0	10.0	0.0	10.0	45.0	0.0	0.0	30.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	2	3	
1	BA	DA VOLRED	337	12.5	30.3	0.9	31.2	41.8	0.0	0.0	24.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	6	17	23	
2	BA	DA EPHREMS	172	45.3	18.6	2.9	21.5	53.5	0.0	0.0	17.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	9	12	
3	BA	DA DOTTEST	144	22.9	20.1	4.2	24.3	59.0	0.0	0.0	32.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	5	6	11	
4	BA	DA SSPLOT	141	86.5	22.7	9.2	31.9	54.6	0.0	0.0	14.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	9	11	
5	BA	DA REDPIT	135	22.2	50.4	0.0	50.4	8.9	0.0	0.0	15.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	6	7	
6	BA	DA BMAG	55	40.0	16.4	9.1	25.5	63.6	0.0	0.0	16.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	4	7	
7	BA	DA SCSDS	41	107.3	19.5	0.0	19.5	41.5	0.0	0.0	22.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	3	5	
8	BA	DA DANLRD	19	157.9	21.1	0.0	21.1	5.3	0.0	0.0	15.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	0	3	
1	CA	DA SELECT	78	53.8	3.8	16.7	20.5	43.6	0.0	0.0	29.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	2	4	
2	CA	DA HORRD	73	60.3	9.6	5.5	15.1	58.9	0.0	0.0	23.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	1	4	
3	CA	DA CROSLT	58	69.0	6.9	17.2	24.1	53.4	0.0	0.0	20.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	2	2	
4	CA	DA ALTRD	55	110.9	14.5	0.0	14.5	45.5	0.0	0.0	16.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	3	6	
5	CA	DA SCANRD	43	48.8	7.0	4.7	11.6	46.5	0.0	0.0	20.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	2	5	
6	CA	DA DTYCON	23	95.7	8.7	30.4	39.1	52.2	0.0	0.0	17.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1	
1	DA	DA RMHAGB	73	42.5	6.8	0.0	6.8	50.7	0.0	0.0	16.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1	

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (6 of 17)

T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DECFAC	STRFAC	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	TOT
1	B	DA VALDTE	195	0.0	48.7	1.5	50.3	12.8	0.0	0.0	49.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	6	4	10	
2	B	DA REDRL	130	0.0	52.3	0.0	52.3	9.2	0.0	0.0	14.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	2	3	
3	B	DA MAGNUL	92	0.0	17.4	6.5	23.9	62.0	0.0	0.0	22.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	4	4	8	
4	B	DA EPH2	66	0.0	28.8	0.0	28.8	54.5	0.0	0.0	15.2	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	
5	B	DA SCNHIL	65	0.0	43.1	0.0	43.1	33.8	0.0	0.0	21.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	7	3	10	
6	B	DA SMTHOT	59	0.0	27.1	0.0	27.1	23.7	0.0	0.0	23.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	5	7	
7	B	DA SMTHVL	54	0.0	22.2	1.9	24.1	50.0	0.0	0.0	27.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	5	7	
8	B	DA DATADJ	49	0.0	46.9	0.0	46.9	24.5	0.0	0.0	24.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	8	3	11	
9	B	DA MAGORB	37	0.0	18.9	2.7	21.6	67.6	0.0	0.0	13.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	2	3	
10	B	DA SUNNUL	35	0.0	22.9	5.7	28.6	54.3	0.0	0.0	25.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	6	1	7	
11	B	DA OUTPUT	20	0.0	65.0	5.0	70.0	20.0	0.0	0.0	10.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	1	3	
12	B	DA INRT	19	0.0	21.1	0.0	21.1	63.2	0.0	0.0	10.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2	
13	B	DA RMAT	14	0.0	28.6	0.0	28.6	64.3	0.0	0.0	0.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1	
14	B	DA MOVADJ	11	0.0	90.9	0.0	90.9	0.0	0.0	0.0	0.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	
15	B	DA MOVE	7	0.0	57.1	0.0	57.1	28.6	0.0	0.0	0.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
16	B	DA SUNSEN	7	0.0	42.9	0.0	42.9	14.3	0.0	0.0	28.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2	
17	B	DA THGHT	6	0.0	33.3	0.0	33.3	0.0	0.0	0.0	16.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1	
1	BA	DA VOLRED	337	12.5	30.3	0.9	31.2	41.8	0.0	0.0	24.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	6	17	23	
2	BA	DA EPHEMS	172	45.3	18.6	2.9	21.5	53.5	0.0	0.0	17.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	9	12	
3	BA	DA DOTST	144	22.9	20.1	4.2	24.3	59.0	0.0	0.0	32.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	5	6	11	
4	BA	DA SSPLOT	141	86.5	22.7	9.2	31.9	54.6	0.0	0.0	14.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	9	11	
5	BA	DA REDPIT	135	22.2	50.4	0.0	50.4	8.9	0.0	0.0	15.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	6	7	
6	BA	DA BMAG	55	40.0	16.4	8.1	25.5	63.6	0.0	0.0	16.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	4	7	
7	BA	DA SCSDS	41	107.3	19.5	0.0	19.5	41.5	0.0	0.0	22.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	3	5	
8	BA	DA DANLRD	19	157.9	21.1	0.0	21.1	5.3	0.0	0.0	15.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	0	3	

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (7 of 17)

15:52:03 26-MAY-82

T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DECFAC	STRFAC	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	TOT
1	C	DA CHEBY	63	0.0	6.3	6.3	12.7	41.3	0.0	0.0	28.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	2	2	
2	C	DA MATINT	58	1.7	5.2	150.0	155.2	82.8	0.0	0.0	10.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2	
3	C	DA SUNFOV	45	0.0	8.9	24.4	33.3	71.1	0.0	0.0	13.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	2	2	
4	C	DA FLAG	32	0.0	12.5	9.4	21.9	46.9	0.0	0.0	21.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	5	6	
5	C	DA NOVOL	23	0.0	13.0	0.0	13.0	56.5	0.0	0.0	26.1	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2	
6	C	DA DERCMP	19	0.0	0.0	52.6	52.6	52.6	0.0	0.0	21.1	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	2	3	
7	C	DA GAPARM	16	0.0	6.2	6.2	12.5	62.5	0.0	0.0	31.2	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
8	C	DA ZENROD	15	0.0	13.3	33.3	46.7	66.7	0.0	0.0	20.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1	
9	C	DA TCON67	12	0.0	8.3	16.7	25.0	83.3	0.0	0.0	0.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
1	CA	DA SELECT	78	53.8	3.8	16.7	20.5	43.6	0.0	0.0	29.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	2	4	
2	CA	DA HORRD	73	60.3	9.6	5.5	15.1	58.9	0.0	0.0	23.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	1	4	
3	CA	DA CROSLY	58	69.0	6.9	17.2	24.1	53.4	0.0	0.0	20.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	2	2	
4	CA	DA ALTRD	55	110.9	14.5	0.0	14.5	45.5	0.0	0.0	16.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	3	6	
5	CA	DA SCANRD	43	48.7	7.0	4.7	11.6	46.5	0.0	0.0	20.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	2	5	
6	CA	DA DTCON	23	95.7	8.7	30.4	39.1	52.2	0.0	0.0	17.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1	

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (8 of 17)

15:52:16 26-MAY-82

T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DECFAC	STRFAC	F	CR	L2	CR	L1O	CR	LN	CR	CH	ERR	TOT
1	D	DA SHFTER	62	0.0	1.6	0.0	1.6	72.6	0.0	0.0	19.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2	
2	D	DA SUNOOD	51	0.0	5.9	3.9	9.8	56.8	0.0	0.0	23.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	
3	D	DA CONE	47	0.0	0.0	8.5	8.5	74.5	0.0	0.0	12.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
4	D	DA PREAVG	46	0.0	6.5	2.2	8.7	47.8	0.0	0.0	17.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	
5	D	DA GAP	20	0.0	5.0	5.0	10.0	70.0	0.0	0.0	25.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
6	D	DA PRCENT	12	0.0	0.0	0.0	0.0	75.0	0.0	0.0	16.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	
7	D	DA MAGDER	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
1	DA	DA RDMAGB	73	42.5	6.8	0.0	6.8	50.7	0.0	0.0	16.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1	

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (9 of 17)

15:52:28 26-MAY-82

T	PX	NAME	EXEC	IDFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DECFA	STIRFAC	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	TOT
1	A	IB HELPC	41	207.3	9.8	0.0	9.8	34.1	0.0	0.0	43.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2		
1	BA	IB GETREC	43	102.3	16.3	0.0	16.3	34.9	0.0	0.0	51.2	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0		
2	BA	IB INTGER	15	146.7	20.0	0.0	20.0	40.0	0.0	0.0	33.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2		
1	CA	IB INTERN	44	25.0	13.6	0.0	13.6	50.0	0.0	0.0	43.2	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1		
2	CA	IB RECFLG	21	157.1	14.3	0.0	14.3	38.1	0.0	0.0	38.1	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0		
1	DA	IB RDLNE	49	132.7	6.1	0.0	6.1	49.0	0.0	0.0	32.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2		
2	DA	IB MAKTIM	41	104.9	9.8	0.0	9.8	51.2	0.0	0.0	34.1	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1		
3	DA	IB PARSEC	32	103.1	0.0	0.0	0.0	56.2	0.0	0.0	65.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0		
4	DA	IB RDMORE	29	113.8	3.4	3.4	6.9	48.3	0.0	0.0	65.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0		
1	BA	IB GETREC	43	102.3	16.3	0.0	16.3	34.9	0.0	0.0	51.2	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0		
2	BA	IB INTGER	15	146.7	20.0	0.0	20.0	40.0	0.0	0.0	33.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2		
1	CA	IB INTERN	44	25.0	13.6	0.0	13.6	50.0	0.0	0.0	43.2	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1		
2	CA	IB RECFLG	21	157.1	14.3	0.0	14.3	38.1	0.0	0.0	38.1	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0		

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (10 of 17)

15:52:38 26-MAY-82

T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DECFAC	STRFAC	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	TOT	
1	D	IB FINCMD	21	0.0	0.0	0.0	0.0	71.4	0.0	0.0	47.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999				1	0	1
1	DA	IB ROLINE	49	132.7	6.1	0.0	6.1	49.0	0.0	0.0	32.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999				2	0	2
2	DA	IB MAKTIM	41	104.9	9.8	0.0	9.8	51.2	0.0	0.0	34.1	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999				0	1	1
3	DA	IB PARSEC	32	103.1	0.0	0.0	0.0	56.2	0.0	0.0	65.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999				0	0	0
4	DA	IB RDMORE	29	113.8	9.4	3.4	6.9	48.3	0.0	0.0	65.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999				0	0	0

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (11 of 17)

15:52:44 26-MAY-82

T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DECFAC	STRFAC	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	TOT
1	BA	IC STOREV	40	247.5	17.5	0.0	17.5	20.0	0.0	0.0	45.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1
2	BA	IC PRINTV	35	191.4	17.1	0.0	17.1	37.1	0.0	0.0	45.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	1	3
3	BA	IC GETCMD	23	133.3	24.2	0.0	24.2	30.3	0.0	0.0	33.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2
4	BA	IC PRYSOL	18	122.2	16.7	0.0	16.7	50.0	0.0	0.0	27.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
5	BA	IC BUGSET	12	183.3	16.7	0.0	16.7	25.0	0.0	0.0	50.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	C	2	2
6	BA	IC PRYSUM	9	122.2	22.2	0.0	22.2	33.3	0.0	0.0	11.1	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
7	BA	IC ITEM	8	137.5	37.5	0.0	37.5	12.5	0.0	0.0	12.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
1	CA	IC PRODATA	42	128.6	11.9	0.0	11.9	47.6	0.0	0.0	31.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	2	3
2	CA	IC LISTV	39	274.4	12.8	0.0	12.8	30.8	0.0	0.0	41.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1
3	CA	IC WRITEV	33	230.3	12.1	0.0	12.1	36.4	0.0	0.0	27.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
4	CA	IC SETUP	29	151.7	13.8	0.0	13.8	34.5	0.0	0.0	31.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
5	CA	IC GETSOL	28	117.9	10.7	0.0	10.7	42.9	0.0	0.0	35.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2
6	CA	IC DIRREC	21	52.4	14.3	0.0	14.3	57.1	0.0	0.0	19.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
7	CA	IC PRHEAD	16	262.5	12.5	0.0	12.5	37.5	0.0	0.0	18.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
1	DA	IC COPYM	35	188.6	8.6	0.0	8.6	45.7	0.0	0.0	34.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2
2	DA	IC TITLE	27	40.7	0.0	0.0	0.0	63.0	0.0	0.0	44.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1
3	DA	IC DATFMT	27	40.7	0.0	0.0	0.0	66.7	0.0	0.0	33.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1
4	DA	IC CORPSOL	26	42.3	0.0	0.0	0.0	65.4	0.0	0.0	30.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
5	DA	IC SERCHV	16	68.7	0.0	0.0	0.0	62.5	0.0	0.0	31.2	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
6	DA	IC RECTIM	13	169.2	0.0	0.0	0.0	46.2	0.0	0.0	53.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
7	DA	IC RECSTM	11	100.0	0.0	0.0	0.0	54.5	0.0	0.0	36.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0
8	DA	IC RECENH	11	100.0	0.0	0.0	0.0	54.5	0.0	0.0	36.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (12 of 17)

T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IF5	DOS	DECS	DECFA	STFAC	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	TOT
1	B	IC EXEC	16	0.0	43.7	0.0	43.7	6.2	0.0	0.0	37.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1		
1	BA	IC STOREV	40	247.5	17.5	0.0	17.5	20.0	0.0	0.0	45.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1		
2	BA	IC PRINTV	35	191.4	17.1	0.0	17.1	37.1	0.0	0.0	45.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	2	1	3		
3	BA	IC GETCMD	33	133.3	24.2	0.0	24.2	30.3	0.0	0.0	33.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2		
4	BA	IC PRYSOL	18	122.2	16.7	0.0	16.7	50.0	0.0	0.0	27.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0		
5	BA	IC BUGSET	12	183.3	16.7	0.0	16.7	25.0	0.0	0.0	50.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	2	2		
6	BA	IC PRYSUM	9	122.2	22.2	0.0	22.2	33.3	0.0	0.0	11.1	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0		
7	BA	IC ITEM	8	137.5	37.5	0.0	37.5	12.5	0.0	0.0	12.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0		
1	CA	IC PRODATA	42	128.6	11.9	0.0	11.9	47.6	0.0	0.0	31.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	1	2	3		
2	CA	IC LISTV	39	274.4	12.8	0.0	12.8	30.8	0.0	0.0	41.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1		
3	CA	IC WRITV	33	230.3	12.1	0.0	12.1	36.4	0.0	0.0	27.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0		
4	CA	IC SETUP	29	151.7	13.8	0.0	13.8	34.5	0.0	0.0	31.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0		
5	CA	IC GETSOL	28	117.9	10.7	0.0	10.7	42.9	0.0	0.0	35.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2		
6	CA	IC DIRREC	21	52.4	14.3	0.0	14.3	57.1	0.0	0.0	19.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0		
7	CA	IC PRHEAD	16	262.5	12.5	0.0	12.5	37.5	0.0	0.0	18.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0		

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (13 of 17)

15:53:10 26-MAY-82

T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DECFAC	STRFAC	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	TOT
1	D	IC DIRVAR	603	0.0	0.0	0.0	0.0	99.3	0.0	0.0	0.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
2	D	IC GETVAL	27	0.0	0.0	0.0	0.0	66.7	0.0	0.0	37.0	-9.999	-9.999	8	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
3	D	IC INSERT	19	0.0	0.0	0.0	0.0	52.6	0.0	0.0	47.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
4	D	IC SORTR	16	0.0	0.0	0.0	0.0	68.7	0.0	0.0	37.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
5	D	IC FINITM	12	0.0	8.3	0.0	8.3	83.3	0.0	0.0	0.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
1	DA	IC COPYM	35	188.6	8.6	0.0	8.6	45.7	0.0	0.0	34.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2	
2	DA	IC TITLE	27	40.7	0.0	0.0	0.0	63.0	0.0	0.0	44.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	
3	DA	IC DATFMT	27	40.7	0.0	0.0	0.0	66.7	0.0	0.0	33.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	
4	DA	IC CPSOL	26	42.3	0.0	0.0	0.0	65.4	0.0	0.0	30.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
5	DA	IC SERCHV	16	68.7	0.0	0.0	0.0	62.5	0.0	0.0	31.2	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
6	DA	IC RECTIM	13	169.2	0.0	0.0	0.0	46.2	0.0	0.0	53.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
7	DA	IC RECSTM	11	100.0	0.0	0.0	0.0	54.5	0.0	0.0	36.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
8	DA	IC RECMEM	11	100.0	0.0	0.0	0.0	54.5	0.0	0.0	36.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (14 of 17)

T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DEC	STRT	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	TOT
1	A	TP	GMTCHK	70	31.4	8.6	0.0	8.6	35.7	0.0	0.0	44.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
1	BA	TP	FINOUT	104	21.2	26.0	31.7	57.7	25.0	0.0	0.0	46.2	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2	2
2	BA	TP	CONVRT	89	24.7	19.1	0.0	19.1	42.7	0.0	0.0	22.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2	2
3	BA	TP	WSDOUT	79	41.8	27.8	0.0	27.8	30.4	0.0	0.0	13.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	2	2	2
4	BA	TP	EMDOUT	74	44.6	24.3	0.0	24.3	35.1	0.0	0.0	18.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	2	2	2
5	BA	TP	REDTLM	70	15.7	27.1	0.0	27.1	28.6	0.0	0.0	14.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
6	BA	TP	ROADL	64	17.2	15.6	0.0	15.6	29.7	0.0	0.0	25.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	1
7	BA	TP	TIMCHK	61	36.1	19.7	29.5	49.2	14.8	0.0	0.0	55.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
8	BA	TP	STATUS	60	18.3	16.7	0.0	16.7	36.7	0.0	0.0	40.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
9	BA	TP	RDUNPK	58	37.9	22.4	0.0	22.4	20.7	0.0	0.0	32.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
10	BA	TP	RDUNCV	58	19.0	22.4	0.0	22.4	22.4	0.0	0.0	32.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1	1
11	BA	TP	NONADL	55	20.0	20.0	0.0	20.0	32.7	0.0	0.0	21.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
12	BA	TP	SKIPMF	25	44.0	24.0	4.0	28.0	24.0	0.0	0.0	32.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1	1
13	BA	TP	QCKCVT	21	52.4	19.0	0.0	19.0	33.3	0.0	0.0	23.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2	2
1	CA	TP	CKOLTY	125	17.6	4.0	14.4	18.4	39.2	0.0	0.0	48.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2	2
2	CA	TP	SCNCHK	118	18.6	7.6	3.4	11.0	40.7	0.0	0.0	24.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
3	CA	TP	SEARCH	109	20.2	12.8	20.2	33.0	49.5	0.0	0.0	19.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	1
4	CA	TP	TCGCHK	70	31.4	8.6	14.3	22.9	35.7	0.0	0.0	38.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
5	CA	TP	ELECON	69	31.9	5.8	8.7	14.5	47.8	0.0	0.0	33.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2	2
6	CA	TP	MAGCON	48	45.8	6.2	6.2	12.5	43.7	0.0	0.0	25.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
7	CA	TP	DAREAD	37	59.5	13.5	0.0	13.5	54.1	0.0	0.0	10.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2	2
8	CA	TP	GMTCON	37	89.2	13.5	8.1	21.6	29.7	0.0	0.0	32.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
9	CA	TP	FLOCON	35	62.9	8.6	17.1	25.7	42.9	0.0	0.0	22.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
10	CA	TP	TPNLRD	30	200.0	13.3	0.0	13.3	3.3	0.0	0.0	40.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	3	0	3	3
11	CA	TP	ROBCON	26	84.6	11.5	0.0	11.5	23.1	0.0	0.0	30.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
1	DA	TP	UNPACK	407	8.4	2.5	5.9	8.4	76.2	0.0	0.0	16.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	1
2	DA	TP	QLOOK	76	43.4	5.3	3.9	9.2	56.6	0.0	0.0	26.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	1
3	DA	TP	TLMHX	65	33.8	9.2	0.0	9.2	63.1	0.0	0.0	15.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	0
4	DA	TP	OSCALE	54	20.4	9.3	0.0	9.3	51.9	0.0	0.0	29.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1	1

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (15 of 17)

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T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DECFAC	STRFAC	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	TOT
1	B	TP	THDRIV	60	0.0	21.7	6.7	28.3	33.3	0.0	0.0	28.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	1	3	4	
2	B	TP	CONVRT	3	0.0	66.7	0.0	66.7	0.0	0.0	0.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
3	B	TP	CKQLT1	3	0.0	66.7	0.0	66.7	0.0	0.0	0.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2	
1	BA	TP	FINOUT	104	21.2	26.0	31.7	57.7	25.0	0.0	0.0	46.2	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	1	1	2	
2	BA	TP	CONVRT	89	24.7	19.1	0.0	19.1	42.7	0.0	0.0	22.5	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2	
3	BA	TP	NSDOUT	79	41.8	27.8	0.0	27.8	30.4	0.0	0.0	19.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	2	2	
4	BA	TP	ENDOUT	74	44.6	24.3	0.0	24.3	35.1	0.0	0.0	18.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	2	2	4	
5	BA	TP	REDTLM	70	15.7	27.1	0.0	27.1	28.6	0.0	0.0	14.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
6	BA	TP	ROADL	64	17.2	15.6	0.0	15.6	29.7	0.0	0.0	25.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	
7	BA	TP	TINCHK	61	36.1	19.7	28.5	49.2	14.8	0.0	0.0	55.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
8	BA	TP	STATUS	60	48.3	16.7	0.0	16.7	36.7	0.0	0.0	40.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
9	BA	TP	RDUNPK	58	37.9	22.4	0.0	22.4	20.7	0.0	0.0	32.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
10	BA	TP	RDUNCV	58	19.0	22.4	0.0	22.4	22.4	0.0	0.0	32.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1	
11	BA	TP	NONADL	55	20.0	20.0	0.0	20.0	32.7	0.0	0.0	21.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
12	BA	TP	SKIPMF	25	44.0	24.0	4.0	28.0	24.0	0.0	0.0	32.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1	
13	BA	TP	OCKCVT	21	52.4	19.0	0.0	19.0	33.3	0.0	0.0	23.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2	

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (16 of 17)

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T	PX	NAME	EXEC	IOFT	CALL	FUNC	TOTS	ASGN	IFS	DOS	DECS	DECFA	STRFAC	F	CR	L2	CR	L10	CR	LN	CR	CH	ERR	TOT
1	C	TP DETECT	28	0.0	0.0	10.7	10.7	75.0	0.0	0.0	21.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
1	CA	TP CKQTTY	125	17.6	4.0	14.4	18.4	39.2	0.0	0.0	48.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2	
2	CA	TP SONCON	118	18.6	7.6	3.4	11.0	40.7	0.0	0.0	24.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
3	CA	TP SEARCH	109	20.2	12.8	20.2	33.0	49.5	0.0	0.0	19.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	
4	CA	TP TCGCHK	70	31.4	8.6	14.3	22.9	35.7	0.0	0.0	38.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
5	CA	TP ELECON	69	31.9	5.8	8.7	14.5	47.8	0.0	0.0	33.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2	
6	CA	TP MAGCON	48	45.8	6.2	6.2	12.5	43.7	0.0	0.0	25.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
7	CA	TP DAREAD	37	59.5	13.5	0.0	13.5	54.1	0.0	0.0	10.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	2	0	2	
8	CA	TP GMTCON	37	59.2	13.5	8.1	21.6	29.7	0.0	0.0	32.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
9	CA	TP FLDCON	35	62.9	8.6	17.1	25.7	42.9	0.0	0.0	22.9	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
10	CA	TP TPNLRD	30	200.0	13.3	0.0	13.3	3.3	0.0	0.0	40.0	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	3	0	3	
11	CA	TP ROBCON	26	84.6	11.5	0.0	11.5	23.1	0.0	0.0	30.8	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
1	DA	TP UNPACK	407	8.4	2.5	5.9	8.4	76.2	0.0	0.0	16.7	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	
2	DA	TP QLOOK	76	43.4	5.3	3.9	9.2	56.6	0.0	0.0	26.3	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	1	1	
3	DA	TP TLMHEX	65	33.8	9.2	0.0	9.2	63.1	0.0	0.0	15.4	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	0	0	0	
4	DA	TP OSCALE	54	20.4	9.3	0.0	9.3	51.9	0.0	0.0	29.6	-9.999	-9.999	9	-9.9	-9.9999	-9.9999	-9.9999	-9.9999	-9.9999	1	0	1	

Figure 2-29. Component Information Report by Function Type Program (REP4)
Output for Project AEM (17 of 17)

2.6 COMPONENT INFORMATION REPORT PROGRAM (REP5)

2.6.1 INTRODUCTION

2.6.1.1 Function and Purpose

The Component Information Report Program (REP5) produces a list of components and associated data for a given project. For each component, the REP5 program lists basic statistics from the CIF in addition to computing and listing the values of several of Halstead's measures. The number of changes and errors for each component is retrieved from the CG intermediate file containing change and error data produced by the CG program (Section 2.5). A sample REP5 output report is given in Section 2.6.4.

2.6.1.2 System Resources

The REP5 program is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a lineprinter, and a disk. The terminal acts both as an input and an output message device when the user interacts with the program. Input to the program consists of user-entered options, the selected SEL data base file, and the CG intermediate file that contains change and error data produced by the CG program. The SEL data base and the CG intermediate file are stored on disk and are on line to the PDP-11/70. The output report is stored on disk by the REP5 program and may be directed to the lineprinter by the user after the program terminates.

2.6.1.3 Approximate Run Time

The normal execution time of the REP5 program depends on the size of the CIF for the given project. Approximate execution

times (wall-clock times) for projects having CIFs of various sizes are listed below.

<u>Project Name</u>	<u>Number of Records of CIF</u>	<u>Execution Time (Minutes)</u>
AEM	415	4
ISEEC	539	6
DEA	530	9

2.6.1.4 Error Messages

The REP5 program provides the following error messages (where the Xs are replaced by the actual values):

```

ERROR IN READING THE SCRATCH FILE.  COMPUTING CORRELATION
      COEFFICIENTS STOPPED
NO MODULES IN SUB-SYSTEM XX
ERROR IN OPENING CIF FILE XXXXXXXXXXXXXXXXXXXXXXXXXXXX
ERROR IN OPENING XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
ERROR IN READING CIF RECORD

```

2.6.1.5 Restrictions/Relation to Other Software

The REP5 program requires the CG intermediate file containing the number of changes and errors for all components of the given project. This intermediate file is produced by the CG program. Thus, to run the REP5 program successfully, the CG program must be run in advance.

2.6.2 PROGRAM INVOCATION

The CG program must be executed before the REP5 program can be invoked. (Sections 2.5.2 and 2.5.3 describe the invocation and operation of the CG program.) After the execution of the CG program is completed, the user may execute the REP5 program by entering the following command on the user's terminal:

```
RUN [204,5]R5
```

The CG program produces an intermediate file, <PRJNAM>.CHN, where <PRJNAM> is the name of the project selected by the user that will then be read by the REP5 program. The user should print the CG intermediate file on the terminal or the lineprinter before invoking the REP5 program. The REP5 program requires the user to enter the two-character subsystem prefixes. These prefixes may be obtained by examining the first two characters of the component names given in the CG intermediate file.

2.6.3 PROGRAM OPERATION

After invoking the REP5 program, the user will be prompted for the project name and the prefix of the selected subsystem. The user should enter the same project name as entered for the CG program. For the prefix of the subsystem, the user must enter the two-character subsystem prefix for which a report is desired. After processing the selected subsystem, the REP5 program returns to the prompt for the subsystem prefix. When the user has processed all desired subsystems, ^Z (control Z) should be entered in response to this prompt to terminate the execution of the REP5 program. The REP5 output report is contained in the file <PRJNAM>.RP5, where <PRJNAM> is the name of the selected project. The user may print the output report after the execution of REP5 is complete by using the PRINT command; for example

```
PRINT <PRJNAM>.RP5
```

where <PRJNAM> is the name of the selected project.

2.6.4 SAMPLE OUTPUT

Figure 2-30 contains a sample report produced by the REP5 program for project AEM. The first page contains a description of abbreviations used throughout the report. The report for each selected subsystem then follows. For each

subsystem, the report lists the components from the CIF belonging to the selected subsystem in alphabetical order. For each component, basic statistics contained in the CIF are given in addition to the values of several of Halstead's measures computed by the REP5 program. The number of changes and errors for each component from the CG intermediate file is also reported. The various statistics given for each component are described on page 1 of the REP5 report. Following the data on the components in the selected subsystem, correlation coefficients between the various statistics are given. These correlations are computed from the data for the components in the selected subsystem. The last page of the report gives the correlation coefficients between the various statistics, computed by using all components in all selected subsystems for the given project.

SUB-SYSTEM AD

T	MODULE	LEN	PRED	PROG	PRED	TIME	EXEC	NOCOM	TOTAL	PRED	BUGS	ET1	ET2	N1	N2	I/O	CH	ERR	TOT
																</			

Figure 2-30. Component Information Report Program (REP5) Output for Project AEM (1 of 13)

T	MODULE	LEN	PRED LEN	PRG VOL	PRED EFFORT	PRED TIME	EXEC STMT	EXEC LINES	NOCOM LINES	TOTAL LINES	MCAB	BUGS	PRED ET1	ET2	N1	N2	I/O	CH	ERR	TOT
20	C	ADDYNMOD	1391	726	9556	527999	8.1481	135	163	361	26	3	20	97	715	676	32	1	2	3
21	D	ADGMPRD	83	89	380	6034	0.0931	14	19	102	4	0	7	17	39	44	6	0	0	0
22	C	ADGMAT	935	286	5453	220966	3.4100	65	86	217	4	1	14	43	489	446	26	1	2	3
23	C	ADMBIAS	1385	886	9874	280909	4.3350	177	230	621	64	3	34	106	749	636	57	1	1	2
24	B	ADMOVEDC	94	117	456	2778	0.0429	13	21	118	1	0	7	22	52	42	16	0	0	0
25	C	ADPRYKM	49	48	196	2476	0.0382	4	8	91	1	0	8	8	28	21	4	0	0	0
26	CA	ADQTYDC	2092	1332	15851	504590	7.7869	244	330	635	33	5	28	163	1132	960	77	3	2	5
27	CA	ADQTYDS	1614	1457	13943	356658	5.3071	234	301	689	26	4	31	175	978	836	83	1	6	7
28	D	ADRECUR1	249	187	1342	28168	0.4347	31	33	140	14	0	14	28	116	133	14	1	1	2
29	C	ADSUNDAT	149	180	798	9956	0.1536	22	38	162	4	0	15	26	83	66	14	1	1	2
30	D	ADSUNVEC	392	201	2140	71562	1.1044	30	45	198	4	0	13	31	208	184	14	0	0	0
31	C	ADTKMAT	163	81	737	35053	0.5409	16	20	88	1	0	9	14	89	74	4	1	0	1
32	D	ADUNVEC	84	61	356	10967	0.1692	11	14	83	2	0	10	9	44	40	3	0	0	0
33	D	ADVDCROSS	60	27	207	3711	0.0573	4	7	77	1	0	5	6	30	30	3	0	0	0
34	BA	ADWRMAGB	124	183	664	3611	0.0557	27	54	276	3	0	12	29	69	55	24	1	1	2

Figure 2-30. Component Information Report Program (REP5) Output for Project AEM (2 of 13)

CORRELATION COEFFICIENTS FOR		34 LINES
1 LEN VS.	2 PRED LEN	CORRELATION COEFFICIENT= 0.83
1 LEN VS.	3 EXEC	CORRELATION COEFFICIENT= 0.98
1 LEN VS.	4 NOCOM LI	CORRELATION COEFFICIENT= 0.95
1 LEN VS.	5 TOTAL LI	CORRELATION COEFFICIENT= 0.84
1 LEN VS.	6 MCCABE	CORRELATION COEFFICIENT= 0.85
1 LEN VS.	7 PRED EFF	CORRELATION COEFFICIENT= 0.71
1 LEN VS.	8 #CHANGES	CORRELATION COEFFICIENT= 0.66
1 LEN VS.	9 #ERRORS	CORRELATION COEFFICIENT= 0.71
1 LEN VS.	10 CH + ERR	CORRELATION COEFFICIENT= 0.77
2 PRED LEN VS.	3 EXEC	CORRELATION COEFFICIENT= 0.88
2 PRED LEN VS.	4 NOCOM LI	CORRELATION COEFFICIENT= 0.87
2 PRED LEN VS.	5 TOTAL LI	CORRELATION COEFFICIENT= 0.89
2 PRED LEN VS.	6 MCCABE	CORRELATION COEFFICIENT= 0.75
2 PRED LEN VS.	7 PRED EFF	CORRELATION COEFFICIENT= 0.32
2 PRED LEN VS.	8 #CHANGES	CORRELATION COEFFICIENT= 0.70
2 PRED LEN VS.	9 #ERRORS	CORRELATION COEFFICIENT= 0.79
2 PRED LEN VS.	10 CH + ERR	CORRELATION COEFFICIENT= 0.83
3 EXEC VS.	4 NOCOM LI	CORRELATION COEFFICIENT= 0.99
3 EXEC VS.	5 TOTAL LI	CORRELATION COEFFICIENT= 0.90
3 EXEC VS.	6 MCCABE	CORRELATION COEFFICIENT= 0.60
3 EXEC VS.	7 PRED EFF	CORRELATION COEFFICIENT= 0.68
3 EXEC VS.	8 #CHANGES	CORRELATION COEFFICIENT= 0.72
3 EXEC VS.	9 #ERRORS	CORRELATION COEFFICIENT= 0.78
3 EXEC VS.	10 CH + ERR	CORRELATION COEFFICIENT= 0.94
4 NOCOM LI VS.	5 TOTAL LI	CORRELATION COEFFICIENT= 0.93
4 NOCOM LI VS.	6 MCCABE	CORRELATION COEFFICIENT= 0.56
4 NOCOM LI VS.	7 PRED EFF	CORRELATION COEFFICIENT= 0.75
4 NOCOM LI VS.	8 #CHANGES	CORRELATION COEFFICIENT= 0.71
4 NOCOM LI VS.	9 #ERRORS	CORRELATION COEFFICIENT= 0.81
4 NOCOM LI VS.	10 CH + ERR	CORRELATION COEFFICIENT= 0.84
5 TOTAL LI VS.	6 MCCABE	CORRELATION COEFFICIENT= 0.38
5 TOTAL LI VS.	7 PRED EFF	CORRELATION COEFFICIENT= 0.82
5 TOTAL LI VS.	8 #CHANGES	CORRELATION COEFFICIENT= 0.71
5 TOTAL LI VS.	9 #ERRORS	CORRELATION COEFFICIENT= 0.85
5 TOTAL LI VS.	10 CH + ERR	CORRELATION COEFFICIENT= 0.50
6 MCCABE VS.	7 PRED EFF	CORRELATION COEFFICIENT= 0.72
6 MCCABE VS.	8 #CHANGES	CORRELATION COEFFICIENT= 0.60
6 MCCABE VS.	9 #ERRORS	CORRELATION COEFFICIENT= 0.74
6 MCCABE VS.	10 CH + ERR	CORRELATION COEFFICIENT= 0.33
7 PRED EFF VS.	8 #CHANGES	CORRELATION COEFFICIENT= 0.31
7 PRED EFF VS.	9 #ERRORS	CORRELATION COEFFICIENT= 0.36
7 PRED EFF VS.	10 CH + ERR	CORRELATION COEFFICIENT= 0.60
8 #CHANGES VS.	9 #ERRORS	CORRELATION COEFFICIENT= 0.89
8 #CHANGES VS.	10 CH + ERR	CORRELATION COEFFICIENT= 0.90
9 #ERRORS VS.	10 CH + ERR	

Figure 2-30. Component Information Report Program (REP5) Output for Project AEM (3 of 13)

T	MODULE	LEN	PRED LEN	PROG VOL	PRED EFFORT	PRED TIME	EXEC SINT	EXEC NCOM	TOTAL LINES	NCAB	BUGS	PRED ET1	ET2	N1	N2	I/O	CH	ERR	TOT
1	CA DAALTRD	260	363	1593	27532	0.4249	55	90	235	10	0	25	45	141	119	19	3	3	6
2	BA DABMAG	359	345	2177	38805	0.5988	55	101	280	10	0	22	45	197	162	24	3	4	7
3	C DACHEBY	432	351	2629	85685	1.3223	63	187	15	0	23	45	234	198	17	0	2	2	2
4	D DACONE	455	236	2567	274766	4.2402	47	47	49	7	0	16	34	239	216	6	0	0	0
5	A DACORRCT	208	256	1191	11056	0.1706	29	49	207	13	0	16	37	113	95	25	3	1	4
6	CA DACROSLI	444	390	2756	129703	2.0016	58	78	246	13	0	26	48	242	202	13	0	2	2
7	BA DADANLRD	53	91	246	3082	0.0476	19	105	557	4	0	12	13	35	18	5	3	0	3
8	B DADATADJ	161	179	862	11625	0.1794	49	69	228	13	0	17	24	109	52	14	8	3	11
9	C DADERCMP	164	128	820	17665	0.2727	19	24	29	5	0	13	19	104	60	9	1	2	3
10	BA DADDTTST	1017	723	7012	174237	2.6888	144	224	488	48	2	30	89	555	462	48	5	6	11
11	CA DADTYCON	185	271	1074	18035	0.2783	23	41	179	5	0	21	35	105	80	14	1	0	1
12	B DAEPH2	497	417	3123	140435	2.1672	66	103	251	11	1	27	51	264	233	15	0	1	1
13	BA DAEPIHMS	1169	811	8234	441551	6.8141	172	231	498	31	2	41	91	629	540	29	3	9	12
14	C DAFLAG	173	233	976	22160	0.3420	32	47	163	8	0	20	30	98	75	10	1	5	6
15	D DAGAP	111	122	549	15388	0.2375	20	38	116	6	0	14	17	60	51	5	0	0	0
16	CA DAHORRD	538	424	3391	104524	1.6130	73	103	283	18	1	27	52	291	247	22	3	1	4
17	B DAINRT	117	118	574	5624	0.0868	19	31	121	3	0	12	18	62	55	13	1	1	2
18	A DAMAGCAL	181	160	969	13532	0.2088	20	51	214	7	0	15	26	95	86	15	1	2	3
19	B DAMAGNUL	547	304	3244	90651	1.3889	92	140	298	22	1	22	39	307	240	23	4	4	8
20	B DAMAGORB	262	266	1514	35849	0.5532	37	66	184	6	0	19	36	140	122	14	1	2	3
21	C DAMATINT	735	171	3884	217184	3.3516	58	82	226	7	1	12	27	456	279	15	1	1	2
22	B DAMOVADJ	70	96	320	731	0.0113	11	21	141	1	0	3	21	40	30	27	0	1	1
23	B DAMOVE	40	52	163	1723	0.0266	7	11	83	1	0	7	10	22	18	4	0	0	0
24	C DANOVOL	132	144	677	16068	0.2480	23	36	126	7	0	17	18	71	61	7	1	1	2
25	B DADUTPUT	146	288	851	2280	0.0352	20	57	281	3	0	13	44	83	63	53	2	1	3
26	D DAPRCENT	57	76	254	5565	0.0859	12	20	93	3	0	11	11	30	27	3	0	1	1
27	D DAPREAVG	233	254	1334	37026	0.5714	46	61	197	9	0	18	35	129	104	11	0	1	1
28	C DAGAPARM	93	128	465	13941	0.2151	16	31	96	6	0	18	14	51	42	4	0	0	0
29	DA DARDMAGB	312	281	1918	26131	0.4033	73	101	357	13	0	16	55	171	141	27	1	0	1
30	BA DAREDPIT	913	511	5912	164206	2.5340	135	182	442	22	1	18	71	516	397	38	1	6	7
31	B DAREDRLL	899	490	5777	167365	2.5828	130	176	430	20	1	17	69	508	391	36	1	2	3
32	B DARMAT	127	62	539	25069	0.3869	14	17	87	1	0	7	12	70	57	3	1	0	1
33	CA DASCANRD	169	318	1006	8285	0.1279	43	77	249	10	0	16	46	100	69	24	3	2	5
34	B DASCNHL	926	648	6255	91190	1.4073	65	134	555	15	2	23	85	487	439	68	7	3	10
35	BA DASCSDS	222	358	1356	9540	0.1472	41	95	286	10	0	23	46	124	98	35	2	3	5
36	CA DASELECT	435	470	2780	52525	0.8106	78	90	272	24	0	20	64	250	185	28	2	2	4

Figure 2-30. Component Information Report Program (REP5) Output for Project AEM (4 of 13)

09:17:22 29 JUN-82

SUB-SYSTEM DA

T	MODULE	LEN	PRED LEN	PROG VOL	PRED EFFORT	PRED TIME	EXEC STMT	NOCOM LINES	TOTAL LINES	MCAB	BUGS	ET1	ET2	N1	N2	I/O	CH	ERR	TOT
37	D	DASHTER	412	270	2381	65636	1.0129	62	83	210	13	0	16	39	202	210	18	1	2
38	B	DASMTHOT	332	385	2055	45784	0.7065	59	80	227	15	0	24	49	187	145	19	2	5
39	B	DASMTNVL	356	378	2186	64277	0.9919	54	81	222	16	0	24	48	196	160	16	2	5
40	BA	DASSPLOT	1099	445	6986	317863	4.9053	141	188	409	22	2	28	54	593	506	29	2	9
41	D	DASUNBOD	551	316	3293	134393	2.0740	51	69	233	13	1	23	40	292	259	17	0	1
42	C	DASUNPDV	315	330	1897	94571	1.4594	45	52	146	7	0	23	42	176	139	9	0	2
43	B	DASUNNUL	263	307	1565	35290	0.5446	35	67	229	10	0	28	34	144	119	15	6	1
44	B	DASUNSEN	40	86	183	883	0.0136	7	23	110	3	0	10	14	21	19	9	1	2
45	C	DATCON67	116	131	579	28975	0.4471	12	16	48	1	0	10	22	66	50	3	0	0
46	B	DATHGHT	52	94	241	839	0.0129	6	16	150	2	0	7	18	28	24	15	1	0
47	B	DAVALDTE	2481	1087	18254	451670	6.9702	195	357	774	98	6	33	131	1348	1133	107	6	4
48	BA	DAVALRED	2540	1610	19847	443803	6.8488	337	508	1121	84	6	38	187	1375	1165	125	6	17
49	C	DAZENBOD	113	133	570	8538	0.1318	15	31	110	4	0	17	16	65	48	9	1	0

Figure 2-30. Component Information Report Program (REP5) Output for Project AEM (5 of 13)

CORRELATION COEFFICIENTS FOR		49 LINES
1 LEN	VS. 2 PRED LEN	CORRELATION COEFFICIENT= 0.93
1 LEN	VS. 3 EXEC	CORRELATION COEFFICIENT= 0.94
1 LEN	VS. 4 NOCOM LI	CORRELATION COEFFICIENT= 0.95
1 LEN	VS. 5 TOTAL LI	CORRELATION COEFFICIENT= 0.87
1 LEN	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.94
1 LEN	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.90
1 LEN	VS. 8 #CHANGES	CORRELATION COEFFICIENT= 0.49
1 LEN	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.74
1 LEN	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.74
2 PRED LEN	VS. 3 EXEC	CORRELATION COEFFICIENT= 0.94
2 PRED LEN	VS. 4 NOCOM LI	CORRELATION COEFFICIENT= 0.95
2 PRED LEN	VS. 5 TOTAL LI	CORRELATION COEFFICIENT= 0.90
2 PRED LEN	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.91
2 PRED LEN	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.79
2 PRED LEN	VS. 8 #CHANGES	CORRELATION COEFFICIENT= 0.55
2 PRED LEN	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.81
2 PRED LEN	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.82
3 EXEC	VS. 4 NOCOM LI	CORRELATION COEFFICIENT= 0.97
3 EXEC	VS. 5 TOTAL LI	CORRELATION COEFFICIENT= 0.88
3 EXEC	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.89
3 EXEC	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.86
3 EXEC	VS. 8 #CHANGES	CORRELATION COEFFICIENT= 0.48
3 EXEC	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.85
3 EXEC	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.82
4 NOCOM LI	VS. 5 TOTAL LI	CORRELATION COEFFICIENT= 0.95
4 NOCOM LI	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.92
4 NOCOM LI	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.82
4 NOCOM LI	VS. 8 #CHANGES	CORRELATION COEFFICIENT= 0.57
4 NOCOM LI	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.82
4 NOCOM LI	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.84
5 TOTAL LI	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.84
5 TOTAL LI	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.70
5 TOTAL LI	VS. 8 #CHANGES	CORRELATION COEFFICIENT= 0.63
5 TOTAL LI	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.74
5 TOTAL LI	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.81
6 MCCABE	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.78
6 MCCABE	VS. 8 #CHANGES	CORRELATION COEFFICIENT= 0.56
6 MCCABE	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.69
6 MCCABE	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.73
7 PRED EFF	VS. 8 #CHANGES	CORRELATION COEFFICIENT= 0.30
7 PRED EFF	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.68
7 PRED EFF	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.61
8 #CHANGES	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.47
8 #CHANGES	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.79
9 #ERRORS	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.91

Figure 2-30. Component Information Report Program (REP5) Output for Project AEM (6 of 13)

OS: 17:39 29-JUN-82

SUB-SYSTEM IB

T	MODULE	LEN	PRED LEN	PROG VOL	PRED EFFORT	PRED TIME	EXEC STMT	EXEC LINES	NOCOM LINES	TOTAL LINES	MCAB	BUGS	PRED BUGS	ET1	ET2	N1	N2	I/O	CH	ERR	TOT
1	D	18FNCMD	132	145	677	23327	0.3600	21	41	114	11	11	0	15	20	70	62	5	1	0	1
2	BA	IBGETREC	298	301	1767	44951	0.6937	43	89	251	23	23	0	26	35	167	131	15	0	0	0
3	A	IBHELPC	199	180	1066	39842	0.6148	41	65	144	19	19	0	16	25	117	82	7	2	0	2
4	CA	IBINTERN	334	377	2060	98715	1.5234	44	76	182	20	20	0	25	47	180	154	10	0	1	1
5	BA	IBINTGER	82	156	427	7603	0.1173	15	31	93	6	6	0	16	21	45	37	6	1	1	2
6	DA	IBMAKTIM	251	276	1464	75131	1.1594	41	64	169	15	15	0	24	33	134	117	7	0	1	1
7	DA	IBPARSEC	214	150	1106	36847	0.5686	32	62	154	22	22	0	15	21	115	99	8	0	0	0
8	DA	IBROLINE	248	282	1452	39595	0.6110	49	77	171	17	17	0	26	32	136	112	12	2	0	2
9	DA	IBROMORE	205	271	1190	16396	0.9530	29	57	165	20	20	0	22	34	108	97	18	0	0	0
10	CA	IBRECPLG	114	191	618	11519	0.1778	21	41	127	9	9	0	18	25	63	51	8	0	0	0

Figure 2-30. Component Information Report Program (REP5) Output for Project AEM (7 of 13)

CORRELATION COEFFICIENTS FOR		10 LINES
1 LEN	VS. 2 PRED LEN	CORRELATION COEFFICIENT = 0.85
1 LEN	VS. 3 EXEC	CORRELATION COEFFICIENT = 0.89
1 LEN	VS. 4 NOCOM LI	CORRELATION COEFFICIENT = 0.93
1 LEN	VS. 5 TOTAL LI	CORRELATION COEFFICIENT = 0.86
1 LEN	VS. 6 MCCABE	CORRELATION COEFFICIENT = 0.84
1 LEN	VS. 7 PRED EFF	CORRELATION COEFFICIENT = -0.23
1 LEN	VS. 8 #CHANGES	CORRELATION COEFFICIENT = 0.13
1 LEN	VS. 9 #ERRORS	CORRELATION COEFFICIENT = -0.15
1 LEN	VS. 10 CH + ERR	CORRELATION COEFFICIENT = 0.70
2 PRED LEN	VS. 3 EXEC	CORRELATION COEFFICIENT = 0.73
2 PRED LEN	VS. 4 NOCOM LI	CORRELATION COEFFICIENT = 0.73
2 PRED LEN	VS. 5 TOTAL LI	CORRELATION COEFFICIENT = 0.50
2 PRED LEN	VS. 6 MCCABE	CORRELATION COEFFICIENT = 0.73
2 PRED LEN	VS. 7 PRED EFF	CORRELATION COEFFICIENT = -0.29
2 PRED LEN	VS. 8 #CHANGES	CORRELATION COEFFICIENT = 0.32
2 PRED LEN	VS. 9 #ERRORS	CORRELATION COEFFICIENT = -0.10
2 PRED LEN	VS. 10 CH + ERR	CORRELATION COEFFICIENT = 0.93
3 EXEC	VS. 4 NOCOM LI	CORRELATION COEFFICIENT = 0.73
3 EXEC	VS. 5 TOTAL LI	CORRELATION COEFFICIENT = 0.73
3 EXEC	VS. 6 MCCABE	CORRELATION COEFFICIENT = 0.16
3 EXEC	VS. 7 PRED EFF	CORRELATION COEFFICIENT = -0.02
3 EXEC	VS. 8 #CHANGES	CORRELATION COEFFICIENT = 0.15
3 EXEC	VS. 9 #ERRORS	CORRELATION COEFFICIENT = 0.92
3 EXEC	VS. 10 CH + ERR	CORRELATION COEFFICIENT = 0.85
4 NOCOM LI	VS. 5 TOTAL LI	CORRELATION COEFFICIENT = 0.65
4 NOCOM LI	VS. 6 MCCABE	CORRELATION COEFFICIENT = -0.04
4 NOCOM LI	VS. 7 PRED EFF	CORRELATION COEFFICIENT = -0.12
4 NOCOM LI	VS. 8 #CHANGES	CORRELATION COEFFICIENT = -0.11
4 NOCOM LI	VS. 9 #ERRORS	CORRELATION COEFFICIENT = 0.80
4 NOCOM LI	VS. 10 CH + ERR	CORRELATION COEFFICIENT = 0.52
5 TOTAL LI	VS. 6 MCCABE	CORRELATION COEFFICIENT = -0.32
5 TOTAL LI	VS. 7 PRED EFF	CORRELATION COEFFICIENT = -0.14
5 TOTAL LI	VS. 8 #CHANGES	CORRELATION COEFFICIENT = -0.39
5 TOTAL LI	VS. 9 #ERRORS	CORRELATION COEFFICIENT = 0.49
5 TOTAL LI	VS. 10 CH + ERR	CORRELATION COEFFICIENT = -0.19
6 MCCABE	VS. 7 PRED EFF	CORRELATION COEFFICIENT = -0.30
6 MCCABE	VS. 8 #CHANGES	CORRELATION COEFFICIENT = -0.35
6 MCCABE	VS. 9 #ERRORS	CORRELATION COEFFICIENT = -0.21
6 MCCABE	VS. 10 CH + ERR	CORRELATION COEFFICIENT = 0.51
7 PRED EFF	VS. 8 #CHANGES	CORRELATION COEFFICIENT = 0.07
7 PRED EFF	VS. 9 #ERRORS	CORRELATION COEFFICIENT = -0.22
7 PRED EFF	VS. 10 CH + ERR	CORRELATION COEFFICIENT = 0.84
8 #CHANGES	VS. 9 #ERRORS	CORRELATION COEFFICIENT = 0.34
8 #CHANGES	VS. 10 CH + ERR	
9 #ERRORS	VS. 10 CH + ERR	

Figure 2-30. Component Information Report Program (REP5) Output for Project AEM (8 of 13)

SUB-SYSTEM IC

T	MODULE	LEN	PRED LEN	PROG VOL	PRED EFFORT	PRED TIME	EXEC SYMT	EXEC NOCOM	TOTAL LINES	MCAB	BUGS	PRED ET1	ET2	N1	N2	I/O	CH	ERR	TOT
1	BA ICBUGSET	73	111	354	4408	0.0680	12	26	97	7	0	15	14	42	31	7	0	2	2
2	DA ICBOPOL	156	182	835	16237	0.2506	26	37	113	9	0	13	28	76	80	10	0	0	0
3	DA ICBOPYM	220	400	1366	24862	0.3837	35	83	209	13	0	18	56	119	101	16	1	1	2
4	DA ICDATFMT	178	179	953	21140	0.3262	27	46	145	10	0	17	24	94	84	10	0	1	1
5	CA ICDIRREC	139	225	776	9416	0.1453	21	43	154	5	0	15	33	75	64	14	0	0	0
6	D ICDIRVAR	3638	1169	26766	25113116	387.5481	603	658	752	4	8	6	158	1816	1822	7	0	0	0
7	B ICEXEC	276	344	1662	10582	0.1633	16	61	235	7	0	13	52	145	131	45	0	1	1
8	D ICFINTIM	85	86	384	31092	0.4798	12	15	64	1	0	5	18	43	42	1	0	0	0
9	BA ICGETCMD	217	303	1286	13552	0.2091	33	67	194	12	0	23	38	121	96	24	2	0	2
10	CA ICGETSDI	145	203	796	11896	0.1836	28	46	123	11	0	18	27	78	67	12	1	1	2
11	D ICGETVAL	177	170	935	20344	0.3140	27	44	133	11	0	13	26	93	84	10	0	0	0
12	D ICGINSERT	145	162	760	13460	0.2077	19	38	132	10	0	15	23	75	70	10	0	0	0
13	BA ICGITEM	61	130	305	1239	0.0191	8	24	118	2	0	11	21	34	27	16	0	0	0
14	CA ICGLISTV	254	385	1572	26798	0.4135	39	89	205	17	0	24	49	139	115	19	0	1	1
15	CA ICGPRDATA	279	360	1704	33602	0.5185	42	81	192	14	0	21	48	148	131	18	1	2	3
16	CA ICGPRHEAD	57	86	261	2845	0.0439	16	30	75	4	0	11	13	32	25	6	0	0	0
17	BA ICGPRINTV	298	366	1826	28736	0.4435	35	83	210	17	0	22	48	161	137	23	2	1	3
18	BA ICGPRISOL	168	227	938	9544	0.1473	18	46	99	6	0	13	35	88	80	19	0	0	0
19	BA ICGPRISUM	68	137	343	1361	0.0210	9	27	114	2	0	10	23	37	31	18	0	0	0
20	DA ICGRCMEM	50	81	236	1793	0.0277	11	20	84	5	0	12	11	28	22	7	0	0	0
21	DA ICGRCSTM	63	66	272	3772	0.0582	11	20	81	5	0	11	9	33	30	5	0	0	0
22	DA ICGRECTIM	70	96	329	3258	0.0503	13	28	97	8	0	13	13	38	32	8	0	0	0
23	DA ICGERCHV	79	91	366	4051	0.0525	16	26	94	6	0	12	13	42	37	8	0	0	0
24	CA ICGSETUP	171	307	1014	10483	0.1618	29	67	198	10	0	19	42	95	76	20	0	0	0
25	D ICGSDRTR	110	62	467	18807	0.2902	16	25	89	7	0	12	7	57	53	3	0	0	0
26	BA ICGSTOREV	261	397	1625	18760	0.2895	40	82	224	19	0	26	49	144	117	27	1	0	1
27	DA ICGTITLE	167	173	888	20757	0.3203	27	43	122	13	0	17	23	88	79	9	0	1	1
28	CA ICGWRITEV	177	324	1062	16231	0.2505	33	72	183	10	0	22	42	98	79	15	0	0	0

Figure 2-30. Component Information Report Program (REP5) Output for Project AEM (9 of 13)

CORRELATION COEFFICIENTS FOR		28 LINES
1 LEN	VS. 2 PRED LEN	CORRELATION COEFFICIENT= 0.90
1 LEN	VS. 3 EXEC	CORRELATION COEFFICIENT= 1.00
1 LEN	VS. 4 NOCOM LI	CORRELATION COEFFICIENT= 0.99
1 LEN	VS. 5 TOTAL LI	CORRELATION COEFFICIENT= 0.95
1 LEN	VS. 6 MCCABE	CORRELATION COEFFICIENT= -0.11
1 LEN	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.99
1 LEN	VS. 8 #CHANGES	CORRELATION COEFFICIENT= -0.03
1 LEN	VS. 9 #ERRORS	CORRELATION COEFFICIENT= -0.07
1 LEN	VS. 10 CH + ERR	CORRELATION COEFFICIENT= -0.06
2 PRED LEN VS.	3 EXEC	CORRELATION COEFFICIENT= 0.89
2 PRED LEN VS.	4 NOCOM LI	CORRELATION COEFFICIENT= 0.93
2 PRED LEN VS.	5 TOTAL LI	CORRELATION COEFFICIENT= 0.98
2 PRED LEN VS.	6 MCCABE	CORRELATION COEFFICIENT= 0.22
2 PRED LEN VS.	7 PRED EFF	CORRELATION COEFFICIENT= 0.85
2 PRED LEN VS.	8 #CHANGES	CORRELATION COEFFICIENT= 0.22
2 PRED LEN VS.	9 #ERRORS	CORRELATION COEFFICIENT= 0.09
2 PRED LEN VS.	10 CH + ERR	CORRELATION COEFFICIENT= 0.19
3 EXEC VS.	4 NOCOM LI	CORRELATION COEFFICIENT= 0.99
3 EXEC VS.	5 TOTAL LI	CORRELATION COEFFICIENT= 0.94
3 EXEC VS.	6 MCCABE	CORRELATION COEFFICIENT= -0.12
3 EXEC VS.	7 PRED EFF	CORRELATION COEFFICIENT= 1.00
3 EXEC VS.	8 #CHANGES	CORRELATION COEFFICIENT= -0.04
3 EXEC VS.	9 #ERRORS	CORRELATION COEFFICIENT= -0.09
3 EXEC VS.	10 CH + ERR	CORRELATION COEFFICIENT= -0.08
4 NOCOM LI VS.	5 TOTAL LI	CORRELATION COEFFICIENT= 0.97
4 NOCOM LI VS.	6 MCCABE	CORRELATION COEFFICIENT= -0.04
4 NOCOM LI VS.	7 PRED EFF	CORRELATION COEFFICIENT= 0.98
4 NOCOM LI VS.	8 #CHANGES	CORRELATION COEFFICIENT= 0.02
4 NOCOM LI VS.	9 #ERRORS	CORRELATION COEFFICIENT= -0.05
4 NOCOM LI VS.	10 CH + ERR	CORRELATION COEFFICIENT= -0.02
5 TOTAL LI VS.	6 MCCABE	CORRELATION COEFFICIENT= 0.10
5 TOTAL LI VS.	7 PRED EFF	CORRELATION COEFFICIENT= 0.92
5 TOTAL LI VS.	8 #CHANGES	CORRELATION COEFFICIENT= 0.13
5 TOTAL LI VS.	9 #ERRORS	CORRELATION COEFFICIENT= 0.02
5 TOTAL LI VS.	10 CH + ERR	CORRELATION COEFFICIENT= 0.09
6 MCCABE VS.	7 PRED EFF	CORRELATION COEFFICIENT= -0.20
6 MCCABE VS.	8 #CHANGES	CORRELATION COEFFICIENT= 0.59
6 MCCABE VS.	9 #ERRORS	CORRELATION COEFFICIENT= 0.42
6 MCCABE VS.	10 CH + ERR	CORRELATION COEFFICIENT= 0.63
7 PRED EFF VS.	8 #CHANGES	CORRELATION COEFFICIENT= -0.09
7 PRED EFF VS.	9 #ERRORS	CORRELATION COEFFICIENT= -0.12
7 PRED EFF VS.	10 CH + ERR	CORRELATION COEFFICIENT= -0.13
8 #CHANGES VS.	9 #ERRORS	CORRELATION COEFFICIENT= 0.28
8 #CHANGES VS.	10 CH + ERR	CORRELATION COEFFICIENT= 0.79
9 #ERRORS VS.	10 CH + ERR	CORRELATION COEFFICIENT= 0.81

Figure 2-30. Component Information Report Program (REP5) Output for Project AEM (10 of 13)

Y	MODULE	LEN	PRED LEN	PROG VOL	PRED EFFORT	PRED TIME	EXEC SYMT	EXEC NOCOM	TOTAL LINES	MCAB	BUGS	PRED ET1	ET2	N1	N2	1/0	CH	ERR	TOT
1	CA TPCQILTY	711	542	4671	162101	2.5016	125	151	418	61	1	27	68	425	286	26	2	0	2
2	BA TPCONVRT	611	548	4014	83598	1.2901	89	141	420	21	1	23	72	335	216	35	2	0	2
3	CA TPDAREAD	250	353	1516	10803	0.1667	37	79	265	5	0	16	51	133	117	38	2	0	2
4	C TPDTECT	171	164	897	69366	1.0705	28	69	224	7	0	13	25	90	81	3	0	0	0
5	CA TPELECON	671	488	4323	116813	1.8027	69	137	382	24	1	23	64	366	305	30	2	0	2
6	BA TPEMOOUT	335	335	2024	47433	0.7320	74	108	343	15	0	25	41	194	141	18	2	2	4
7	BA TPFINGOUT	689	731	4758	113561	1.7525	104	179	486	49	1	30	90	426	263	36	1	1	2
8	CA TPFIDCON	281	326	1686	32885	0.5075	35	103	292	9	0	20	44	157	124	18	0	0	0
9	A TPGMCHK	434	386	2686	167753	2.5888	70	132	298	32	0	23	50	240	194	10	0	0	0
10	CA TPGHCON	203	330	1222	28039	0.4327	37	102	274	13	0	23	42	117	86	12	0	0	0
11	CA TPGMAGCON	344	368	2108	42729	0.6584	48	116	319	13	0	20	50	188	156	21	0	0	0
12	BA TPNONADL	245	241	1389	36234	0.5592	55	68	211	13	0	18	33	146	99	12	0	0	0
13	BA TPOCKCVT	109	168	576	7715	0.1191	21	37	165	6	0	16	23	60	49	10	2	0	2
14	BA TPOLOOK	431	463	2755	109236	1.6857	76	149	376	21	0	25	59	237	194	15	0	1	1
15	DA TPOSSCALE	315	301	1860	64851	1.0023	54	71	214	17	0	18	42	169	146	12	1	0	1
16	BA TPRDADL	312	355	1899	36768	0.5674	64	94	283	17	0	19	49	187	125	20	0	1	1
17	BA TPRDUNCV	239	311	1423	26979	0.4163	58	116	367	20	0	21	41	152	87	16	1	0	1
18	BA TPRDUNPK	220	217	1222	34712	0.5357	58	89	259	20	0	16	31	140	80	10	0	0	0
19	BA TPRDITLM	348	362	2125	48991	0.7560	70	104	324	11	0	19	50	209	139	19	0	0	0
20	CA TPRBCON	138	235	778	10351	0.1597	26	73	233	9	0	18	32	77	61	13	0	0	0
21	CA TPCNCON	746	762	5170	160588	2.4782	118	199	541	30	1	22	100	405	341	31	0	0	0
22	CA TPCSEARCH	643	608	4308	385861	5.9546	109	176	406	22	1	29	75	378	265	11	0	1	1
23	BA TPKTIPMF	115	168	607	12949	0.1998	25	57	202	9	0	16	23	66	45	7	1	0	1
24	BA TPKSTATUS	319	289	1868	28573	0.4409	60	111	314	25	0	17	41	179	140	24	0	0	0
25	CA TPTGCHK	445	391	2763	177484	2.7390	70	132	299	28	0	25	49	255	190	10	0	0	0
26	BA TPTMCHK	449	498	2907	222163	3.4284	61	121	335	35	0	26	63	283	166	9	0	0	0
27	DA TPTLMHEX	373	304	2203	247024	3.8121	65	123	296	11	0	16	44	198	175	5	0	0	0
28	B TPTMDRIV	229	311	1358	17728	0.2736	60	101	410	18	0	16	45	147	82	21	1	3	4
29	CA TPTPNLRO	108	106	519	13717	0.2117	30	134	963	13	0	14	14	67	41	5	3	0	3
30	DA TPNPACK	2455	1606	19260	820997	12.6697	407	465	1148	69	6	65	165	1351	1104	71	0	1	1
31	BA TPNSDOUT	367	328	2210	76328	1.1779	79	114	354	16	0	25	40	214	153	14	0	2	2

Figure 2-30. Component Information Report Program (REP5) Output for Project AEM (11 of 13)

CORRELATION COEFFICIENTS FOR		31 LINES
1 LEN	VS. 2 PRED LEN	CORRELATION COEFFICIENT= 0.97
1 LEN	VS. 3 EXEC	CORRELATION COEFFICIENT= 0.98
1 LEN	VS. 4 NOCOM LI	CORRELATION COEFFICIENT= 0.96
1 LEN	VS. 5 TOTAL LI	CORRELATION COEFFICIENT= 0.72
1 LEN	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.79
1 LEN	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.91
1 LEN	VS. 8 #CHANGES	CORRELATION COEFFICIENT= -0.11
1 LEN	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.15
1 LEN	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.01
2 PRED LEN	VS. 3 EXEC	CORRELATION COEFFICIENT= 0.95
2 PRED LEN	VS. 4 NOCOM LI	CORRELATION COEFFICIENT= 0.95
2 PRED LEN	VS. 5 TOTAL LI	CORRELATION COEFFICIENT= 0.68
2 PRED LEN	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.80
2 PRED LEN	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.87
2 PRED LEN	VS. 8 #CHANGES	CORRELATION COEFFICIENT= -0.15
2 PRED LEN	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.19
2 PRED LEN	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.00
3 EXEC	VS. 4 NOCOM LI	CORRELATION COEFFICIENT= 0.96
3 EXEC	VS. 5 TOTAL LI	CORRELATION COEFFICIENT= 0.74
3 EXEC	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.78
3 EXEC	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.91
3 EXEC	VS. 8 #CHANGES	CORRELATION COEFFICIENT= -0.14
3 EXEC	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.24
3 EXEC	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.05
4 NOCOM LI	VS. 5 TOTAL LI	CORRELATION COEFFICIENT= 0.83
4 NOCOM LI	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.78
4 NOCOM LI	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.90
4 NOCOM LI	VS. 8 #CHANGES	CORRELATION COEFFICIENT= -0.13
4 NOCOM LI	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.19
4 NOCOM LI	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.03
5 TOTAL LI	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.58
5 TOTAL LI	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.64
5 TOTAL LI	VS. 8 #CHANGES	CORRELATION COEFFICIENT= 0.21
5 TOTAL LI	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.19
5 TOTAL LI	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.29
6 MCCABE	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.70
6 MCCABE	VS. 8 #CHANGES	CORRELATION COEFFICIENT= -0.02
6 MCCABE	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.11
6 MCCABE	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.05
7 PRED EFF	VS. 8 #CHANGES	CORRELATION COEFFICIENT= -0.25
7 PRED EFF	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.12
7 PRED EFF	VS. 10 CH + ERR	CORRELATION COEFFICIENT= -0.11
8 #CHANGES	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.01
8 #CHANGES	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.77
9 #ERRORS	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.64

Figure 2-30. Component Information Report Program (REP5) Output for Project AEM (12 of 13)

CORRELATION COEFFICIENTS FOR		160 LINES
1 LEN	VS. 2 PRED LEN	CORRELATION COEFFICIENT= 0.81
1 LEN	VS. 3 EXEC	CORRELATION COEFFICIENT= 0.96
1 LEN	VS. 4 NOCOM LI	CORRELATION COEFFICIENT= 0.95
1 LEN	VS. 5 TOTAL LI	CORRELATION COEFFICIENT= 0.79
1 LEN	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.76
1 LEN	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.51
1 LEN	VS. 8 #CHANGES	CORRELATION COEFFICIENT= 0.38
1 LEN	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.47
1 LEN	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.50
2 PRED LEN	VS. 3 EXEC	CORRELATION COEFFICIENT= 0.82
2 PRED LEN	VS. 4 NOCOM LI	CORRELATION COEFFICIENT= 0.85
2 PRED LEN	VS. 5 TOTAL LI	CORRELATION COEFFICIENT= 0.71
2 PRED LEN	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.24
2 PRED LEN	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.41
2 PRED LEN	VS. 8 #CHANGES	CORRELATION COEFFICIENT= 0.47
2 PRED LEN	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.51
2 PRED LEN	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.97
3 EXEC	VS. 4 NOCOM LI	CORRELATION COEFFICIENT= 0.81
3 EXEC	VS. 5 TOTAL LI	CORRELATION COEFFICIENT= 0.71
3 EXEC	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.60
3 EXEC	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.32
3 EXEC	VS. 8 #CHANGES	CORRELATION COEFFICIENT= 0.44
3 EXEC	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.44
3 EXEC	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.89
4 NOCOM LI	VS. 5 TOTAL LI	CORRELATION COEFFICIENT= 0.80
4 NOCOM LI	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.49
4 NOCOM LI	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.42
4 NOCOM LI	VS. 8 #CHANGES	CORRELATION COEFFICIENT= 0.48
4 NOCOM LI	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.51
4 NOCOM LI	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.75
5 TOTAL LI	VS. 6 MCCABE	CORRELATION COEFFICIENT= 0.23
5 TOTAL LI	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.52
5 TOTAL LI	VS. 8 #CHANGES	CORRELATION COEFFICIENT= 0.47
5 TOTAL LI	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.56
5 TOTAL LI	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.03
6 MCCABE	VS. 7 PRED EFF	CORRELATION COEFFICIENT= 0.45
6 MCCABE	VS. 8 #CHANGES	CORRELATION COEFFICIENT= 0.43
6 MCCABE	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.50
6 MCCABE	VS. 10 CH + ERR	CORRELATION COEFFICIENT= -0.03
7 PRED EFF	VS. 8 #CHANGES	CORRELATION COEFFICIENT= -0.01
7 PRED EFF	VS. 9 #ERRORS	CORRELATION COEFFICIENT= -0.02
7 PRED EFF	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.52
8 #CHANGES	VS. 9 #ERRORS	CORRELATION COEFFICIENT= 0.83
8 #CHANGES	VS. 10 CH + ERR	CORRELATION COEFFICIENT= 0.91
9 #ERRORS	VS. 10 CH + ERR	

Figure 2-30. Component Information Report Program (REP5) Output for Project AEM (13 of 13)

2.7 GRAPHING PROGRAM (GQ)

2.7.1 INTRODUCTION

2.7.1.1 Function and Purpose

The Graphing Program (GQ) reads an external data file containing a set of points and produces a graph of the data. The external file may be generated by the user or by another program, such as the WK program (Section 2.4) or the PF program (Section 2.2). The GQ program optionally fits a polynomial of degree less than or equal to 10 to the given set of points and computes various associated statistics. The output file produced by GQ may be sent to the user's terminal or to a file for printing. A sample of the report produced by the GQ program is given in Section 2.7.4.

2.7.1.2 System Resources

The GQ program is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a disk, and/or a lineprinter. The terminal acts both as an input and an output message device when the user interacts with the program. It can also be used as an output device to display the curve fit to the data and the associated statistics. Input to the program consists of user-entered options and the external file. The external file must be stored on disk on line to the PDP-11/70. The output report may be stored on disk by the GQ program and may be directed to the lineprinter by the user after program termination.

2.7.1.3 Approximate Run Time

The normal execution time of the GQ program is very fast and does not depend, in general, on the size of the external data file. The approximate execution times (wall-clock

times) for different sizes of external data files are listed below.

<u>Project Name</u>	<u>Number of Records in External Data Set</u>	<u>Execution Time (Seconds)</u>
AADS	63	33
DESIM	67	35
GLI	93	36
DEA	100	36

2.7.1.4 Error Messages

The following error messages are produced by the GQ program (where the Xs are replaced by the actual values):

XX UNFLAGGED POINT(S), CANNOT CONTINUE

GIVEN MAXIMUM ORDER IS TOO LARGE, CHANGE TO 10

(YVALUE) NUMBER OF COEF MUST BE GREATER THAN 0
BUT IT IS XXX Y VALUE DEFAULTS TO ZERO FOR
X = XXXXXXXX.XXXX

(POLYFT) TOLERANCE GIVEN AS 0, CHANGED TO 1.0

(RDPLT3) A MAXIMUM OF XXXX RECORDS WERE READ, REST
IGNORED

TT1 AND TT2 NOT YET SUPPORTED

***** INVALID INPUT TO GRAPH. N = XXXXXXXXXXXX

MLINES = XXXXXXXXXXXX

XL = XXXXXXXX.XXXXXXX, XH = XXXXXXXX.XXXXXXX

YL = XXXXXXXX.XXXXXXX, YH = XXXXXXXX.XXXXXXX

***** CALL TO GRAPH WITH ALL DATA POINTS FLAGGED

***** ANNOTATION VALUES TOO LARGE FOR FORMAT IN
SUBROUTINE GRAPH

XMIN = XXXXXXXX.XXXXXXX XMAX = XXXXXXXX.XXXXXXX

YMIN = XXXXXXXX.XXXXXXX YMAX = XXXXXXXX.XXXXXXX

```
***** ZERO RANGE FOR X OR Y VALUES IN SUBROUTINE GRAPH
XMIN = XXXXXXXX.XXXXXXX XMAX = XXXXXXXX.XXXXXXX
YMIN = XXXXXXXX.XXXXXXX YMAX = XXXXXXXX.XXXXXXX
```

2.7.1.5 Restrictions/Relation to Other Software

The input to the GQ program is an external file containing a set of points generated by the user or by the PF or the WK program (see Sections 2.2 and 2.4, respectively). The PF or WK program must be executed before the GQ program to produce the external data file used for graphing.

The number of records in the external file cannot exceed 118. If more than 118 records are encountered, the following error message will be displayed on the user's terminal: (RDPLT3) A MAXIMUM OF 118 RECORDS WERE READ, REST IGNORED.

2.7.2 PROGRAM INVOCATION

Before invoking the GQ program, the user must generate the external data file that is the input to the program. This file may be generated by executing the WK or the PF program or may be constructed by the user. Section 2.2.2 discusses the method for invoking the PF program, and Section 2.4.2 discusses that for invoking the WK program.

The format of this file is as follows. The first record contains the project name (format 8A1 in columns 3 through 10) and the current date in the format DD-MMM-YY (format 9A1 in columns 60 through 68). The second record contains the output report title (format 35A1 in columns 1 through 35). The third record is a blank record. The fourth record contains the maximum value for the X-axis (format F12.4 in columns 1 through 12) and the X-axis title (format 40A1 in columns 15 through 54). The fifth record contains the maximum value for the Y-axis (format F12.4 in columns 1 through 12) and the Y-axis title (format 40A1 in columns 15 through 54). The maximum value for the X-axis or

the Y-axis (in records 4 and 5) is entered as 0 if the value is to be computed by the GQ program. The sixth record contains a Y-factor value for scaling the Y-axis (format F12.4 in columns 1 through 12). Usually, the Y-factor is the number of thousands of lines in the project whose data is being graphed. The seventh and following records are the actual data records. Each data record contains an X value, a Y value, and a 1-byte character associated with each data point (may be blank). The 1-byte character is shown on the graph beneath the X-axis at the point with which it is associated. For example, in Figure 2-31, data are given for each week of a project, and the 1-byte characters indicate the beginning of the phases. The character D denotes the beginning of design; C, the beginning of code; S, the beginning of system testing; A, the beginning of acceptance testing; and C, the beginning of cleanup. The format of the data record is as follows: 6X, F12.4, 1X, F12.4, 1X, A1. Figure 2-31 shows an example of the external data file.

Before invoking the GQ program, the user must copy the GQ input parameters file, GQ.NL, (Figure 2-32) from the data base UIC [204,6] to the user's UIC. This file contains several debug switches and some options of user interest. The user's copy of this file may be edited to change the options. There are two types of records in the GQ input parameters file: comment records and parameter records. Comment records contain a C in column 1 and are ignored by the GQ program. Parameter records contain one parameter per record in format F10.3 in columns 1 through 10. The remainder of the parameter records are ignored by the GQ program and may be used for comments. The order in which the parameters must appear and the definitions of each parameter are given in the listing of file GQ.NL in Figure 2-32.

26-OCT-82

[204,11]DESIM.2R1

PAGE 1

DESIM
RESOURCE SUMMARY (PROG) HRS BY WEEK

13-JUL-82 09

O		WEEKS (RH1)	
O	HOURS		
14			
1	0	D	1
2	44		2
3	45		3
4	52		4
5	50		5
6	26		6
7	58		7
8	46		8
9	24		9
10	70		10
11	66		11
12	51		12
13	56		13
14	36		14
15	40		15
16	22		16
17	16		17
18	33		18
19	15		19
20	25		20
21	40		21
22	62		22
23	72		23
24	79		24
25	85		25
26	60		26
27	74		27
28	86		28
29	82	C	29
30	88		30
31	98		31
32	94		32
33	87		33
34	88		34
35	87		35
36	69		36
37	103		37
38	98		38
39	81		39
40	84		40
41	82		41
42	93		42
43	93		43
44	88		44
45	22		45
46	40		46
47	94		47
48	98		48
49	94	S	49

Figure 2-31. External Data File Input to the GQ Program

```

C                                     DAVE WYCKOFF  11/20/
C NAMELIST TYPE INPUT FILE TO THE GRAPHING PROGRAM
C                                     O = NO    1 = YES
C
C      0      1  NL      WRITE OUT NAMELIST PARAMETERS WHEN READ IN (THI
C      0      2          NOT USED.
C
C      2.5    3  SIGFAC  DISTANCE BOUNDARY CURVE IS FROM FITTED CURVE (X
C                        SIGFAC IS MULTIPLIED TIMES THE STANDARD
C                        DEVIATION TO GET THE RANGE OF ACCEPTABLE
C                        VALUES IN THE DATA. (ANY DATA POINTS
C                        BEYOND SIGFAC * STANDARD DEVIATION
C                        FROM THE FITTED CURVE ARE FLAGGED.)
C
C      1      4  MCOEF  MINIMUM (START) ORDER OF FIT
C
C      16     5  IPR
C                        IPR IS THE DEFAULT PRINT FILE (AND MAY BE
C                        CHANGED AT RUN TIME) AND WILL BE FILE
C                        'FOROXX.DAT' WHERE XX IS IPR IF IPR
C                        IS GREATER THAN 15.
C
C      130    6  IWID  DEFAULT GRAPH WIDTH (MAY BE CHANGED AT RUN TIME
C
C      55     7  MLINE  DEFAULT GRAPH HEIGHT (MAY BE CHANGED AT RUN TI
C
C      0      8  ITERM
C                        ITERM IS THE DEFAULT TERMINAL TYPE IF
C                        GREATER THAN ZERO. MEANINGFUL ONLY IF
C                        REPORT IS DIRECTED TO THE TERMINAL
C                        (IPR IS LE 15). ITERM IS IGNORED IF ZERO.
C
C      4      9  MXORDR
C                        MXORDR IS THE MAXIMUM (END) ORDER OF FIT
C                        TO BE COMPUTED. IT IS USED IN CONJUNCTION
C                        WITH MCOEF ABOVE.
C
C      1     10  TRUNCATE =1 TRUNCATE TRAILING ZEROES
C                        REMOVE ALL CONSECUTIVE TRAILING ZEROES
C                        FROM DATA BEFORE ANY PROCESSING IS DONE.
C
C      1     11  OFFSET  =1 FORCES START AND END ZEROES IN DATA
C                        ADD A Y ZERO POINT AT X = 0 AND X = NPTS + 1
C
C      0     12  IOPT
C                        WHEN 2 OR MORE POINTS ARE PRINT AT THE
C                        THE SAME POINT, PRINT THE NUMBER OF
C                        OVERLAPPING POINTS ON THE GRAPH.
C
C      1.0   13  XFACTR
C                        MULTIPLY ALL X POINTS BY THIS FACTOR.
C
C      1.0   14  YFACTR
C                        MULTIPLY ALL Y POINTS BY THIS FACTOR.

```

Figure 2-32. GQ Input Parameters File (GQ.NL) (1 of 4)

C					56
	0.50	15	TOL	TOLERANCE	57
C				TOL IS THE TOLERANCE USED IN COMPUTATION	58
C				OF THE STANDARD DEVIATION AND CHI SQUARED.	59
C					60
	5	16	XSHIFT	SHIFT GRAPH TO RIGHT N COLUMNS.	61
C				XSHIFT DETERMINES HOW CLOSE THE GRAPH	62
C				IS PRINTED TO THE LEFT MARGIN.	63
C					64
	0	17			65
	0	18			66
	0	19			67
	1	20			68
	1	21	QRAW	NOT USED	69
	1	22			70
	1	23	QSCALE	NOT USED	71
	0	24	QSCALX	DIVIDE X BY ACCEPTANCE TEST WEEK.	72
C				THE WEEK NUMBER IS DETERMINED BY WHICH	73
C				WEEK THE CHARACTER "A" IS IN IN THE INPUT	74
C				DATA FILE.	75
C					76
	0	25	QSCALY	DIVIDE Y BY NUMBER OF THOUSANDS OF LINES.	77
C				THIS NUMBER IS THE SIXTH LINE IN THE INPUT	78
C				FILE.	79
C					80
	0.00	26	AXMAX	X MAX	81
C				AXMAX WILL BE THE RIGHT SIDE MAXIMUM	82
C				ON THE OUTPUT GRAPH (IF AXMAX NE 0).	83
C					84
	00	27	AYMAX	Y MAX	85
C				AYMAX PLUS 5% WILL BE THE Y AXIS MAXIMUM	86
C				ON THE OUTPUT GRAPH (IF AYMAX NE 0).	87
C					88
	0	28			89
	1	29	KCYCLE	FLAG BAD DATA AND CYCLE THIS NUMBER OF TIMES.	90
C				KCYCLE IS THE NUMBER OF TIMES THE PROGRAM	91
C				WILL COMPUTE STATISTICS AND THEN FLAG	92
C				DATA BASED ON POINTS LYING BEYOND	93
C				"SIGFAC * STANDARD DEVIATION" FROM THE	94
C				FITTED CURVE.	95
C					96
	1	30	QCYCLE	PRINT GRAPH EACH CYCLE THROUGH LOOP (KCYCLE GRA	97
C					98
	0	31	QPRINT	PRINT OUT GRAPH/DATA FOR EACH ORDER OF	99
C				FIT ATTEMPTED. IF NO, PRINT OUT GRAPH/DATA	100
C				FOR LAST ORDER ONLY.	101
C					102
	1	32	QOMITO	FLAG ALL ZERO Y VALUES EXCEPT	103
C				AT THE BEGINNING AND END OF THE DATA.	104
C					105
	1	33	QBAND	PLOT BAND (UPPER AND LOWER RANGE CURVES)	106
C				AROUND DATA.	107
C					108
	0	34	QCUM	FORM Y VALUES BY ACCUMULATING THE	109
C				DATA AS IT IS READ IN. IF NO, USE	110

Figure 2-32. GQ Input Parameters File (GQ.NL) (2 of 4)

```

C          Y VALUES EXACTLY AS ON INPUT FILE. 111
C 112
C 1 35 QGRAPH PRINT OUT GRAPH PAGE 113
C 114
C 1 36 QSTATS PRINT OUT STATISTICS (FIRST PAGE OF REPORT) 115
C 116
C 1 37 QBEST COMPUTE BEST FIT. IF NO, RUN THROUGH ALL 117
C ORDERS OF FIT AS DEFINED ABOVE. (MCOEF 118
C AND MXORDR). 119
C 120
C 0 38 QMAKEX CREATE X ARRAY OF 1 TO N (IGNORE FIRST DATA COL 121
C IF NO, USE X VALUES AS ON THE INPUT DATA 122
C FILE. 123
C 124
C 1 39 DEBUG LOOP 125
C 0 40 DEBUG GRFDRV 126
C 127
C          THE FOLLOWING 4 VARIABLES ARE 128
C CHARACTERS BUT MUST BE ENTERED AS 129
C INTEGERS. THESE ARE THE DECIMAL NUMBERS 130
C OF THE ASCII CHARACTER SET. ANY OTHER 131
C NUMBERS (FROM 30-126) MAY BE USED AS 132
C WELL. THOSE GIVEN BELOW ARE JUST 133
C EXAMPLES. 134
C 135
C 88 41 QCHR(1) DATA CHAR b1=32 *=42 .=46 A=65 O=79 X=88 != 136
C 45 42 QCHR(2) UPPER CHAR ?=63 +=43 -=45 137
C 45 43 QCHR(3) LOWER CHAR 138
C 46 44 QCHR(4) MIDDLE CHAR 139
C 0 45 140
C 0 46 WRKDAT DEBUG 141
C 0 47 142
C 0 48 143
C 0 49 144
C 0 50 YLOW NOT USED 145
C 146
C 1 51 QNL PRINT FIRST TWO NAMELIST PAGES IN REPORT. 147
C 148
C 70 52 QFLAG FLAG CHARACTER SHOWN IN OUTPUT GRAPH. 149
C (SEE #41 ABOVE, DATA CHAR) 150
C 151
C 0 53 QINTG PRINT X AND Y DATA AS INTEGERS, NOT REALS 152
C IN LAST PAGE OF REPORT. 153
C 154
C 1 54 QSCREEN SCREEN DATA POINTS RELATIVE TO PREVIOUS 155
C AND SUCCEEDING FEW POINTS. 156
C 157
C 3.0 55 DIFFAC FACTOR OF AVERAGE DIFFERENCE TO FLAG DATA. 158
C IF DATA FALLS BEYOND THIS FACTOR TIMES 159
C THE STANDARD DEVIATION FROM THE LOCALLY 160
C COMPUTED AVERAGE, IT IS FLAGGED. 161
C 162
C 3 56 NSTREK NUMBER OF CONSECUTIVE BAD POINTS BEFORE RESET. 163
C IF THIS MANY CONSECUTIVE POINTS ARE FLAGGED, 164
C THEN THEY ARE UNFLAGGED, AND THE LOCAL TEST 165

```

Figure 2-32. GQ Input Parameters File (GQ.NL) (3 of 4)

	26-OCT-82	GQ.NL	PAGE 4
C		RESTARTS AT THE FIRST OF THESE POINTS.	166
C			167
	4	57 NAV1	168
C		NUMBER OF PREVIOUS POINTS TO CONSIDER	169
C		LOCAL TESTS.	170
	6	58 NAV2	171
C		NUMBER OF SUCCEEDING POINTS TO CONSIDER	172
C		LOCAL TESTS.	173
	2	59 MXITER	174
C		MAXIMUM NUMBER OF ATTEMPTS TO REDUCE	175
C		FRACTION OF POINTS FLAGGED TO BELOW	176
C		DESIRED VALUE (MXFRAC).	177
	0.20	60 MXFRAC	178
C		MAXIMUM FRACTION OF FLAGGED POINTS ALLOWED	179
	0.7	61 YDFAC	180
C		MULTIPLIED TIMES Y DIFFERENCES (LIMIT)	181
	0	62 QRESCN	182
		RECHECK PRE EDITS AND POLY-FIT	

Figure 2-32. GQ Input Parameters File (GQ.NL) (4 of 4)

The user initiates the GQ program by logging onto the UIC and entering the following command:

```
RUN [204,5]GQ
```

2.7.3 PROGRAM OPERATION

After invoking the GQ program, the user will be prompted for the file name to be plotted. The user should enter the external data file name. The user will then be prompted for three parameter options: output unit, graph width, and graph height. Except for the output unit, a carriage return should be entered if the user does not want to change the default value on the GQ input parameters file. For the output unit, the user should enter the same value as given for the parameter IPR in the GQ input parameters file if IPR is set to a number greater than 15; otherwise, a carriage return should be entered. To end the prompts and to end the execution of the GQ program, the user enters ^Z (control Z) in response to any prompt.

An output file, FOR0XX.DAT, is produced when the GQ program terminates if the output unit is set to a number greater than 15 (where XX is the output unit number). The user may print the output report by using the PRINT command; for example

```
PRINT FOR0XX.DAT
```

where XX is the output unit number.

2.7.4 SAMPLE OUTPUT

Figure 2-33 is a sample output report produced by the GQ program for the DESIM project. The first page contains some input options and parameters from the GQ input parameter file; the second page, some statistics; the third page, the graph; and the fourth page, the given values of X and Y, the fitted value of Y, the residual, and a flag showing points not used for computing the fitted curve.

13-JUL-82 09:30:40	RESOURCE SUMMARY (PROG) HRS BY WEEK	PROJECT DESIM	PAGE 1
DATE OF DATA 13-JUL-82			
INPUT OPTIONS			
RUN PRESCAN	T		
RUN RESCAN	T		
FIND BEST FIT	T		
OMIT ZERO DATA POINTS	T		
FORCE START AND END ZEROES	T		
REMOVE TRAILING ZEROES	T		
ACCUMULATE DATA AS READ IN	F		
PRINT INPUT PARMS AND STATS	T		
PRINT GRAPH	T		
PRINT X, Y, AND FIT DATA	T		
PRINT REPORT EACH REJ CYCLE	T		
PRINT REPORT EACH FIT TRY	F		
PLOT BAND OF FIT	T		
PLOT COUNT OF OVERLAPPING PTS	F		
INPUT PARAMETERS			
NUMBER OF REJECT CYCLES	1		
MAX ORDER OF FIT TO BE TRIED	9		
TOLERANCE	0.50		
SIGMA FACTOR (BAND)	2.50		
PRESCAN PARAMETERS			
PRELIMINARY PRESCAN FACTOR	3.00		
BOUNDARY FACTOR	0.70		
MAX FRACTION FLG PTS	0.20		
# FLG PTS BEFORE RESETTNG	3		
# PREV PTS TO CONSIDER	4		
# NEXT PTS TO CONSIDER	6		
# ITERATIONS	2		

Figure 2-33. GQ Program Output Report (1 of 4)

CURRENT STATE

RESIDUAL REJECT CYCLE #	1
ORDER OF FIT	3
TOTAL NUMBER OF POINTS	83
NUMBER OF POINTS PLOTTED	56
NUMBER OF FLAGGED POINTS	7
HORIZ AXIS FACTOR	1.000
VERTICAL AXIS FACTOR	1.000

STATISTICS

AVERAGE NOISE IN PRESCAN	17.62
FINAL PRESCAN BOUNDARY FACTOR	0.70
STANDARD DEVIATION	10.93
CHI SQUARED	477.74
SUM OF ABSOLUTE RESIDUALS	463.46
SUM OF RESIDUALS SQUARED	5943.53
SUM OF MIN RES SQUARED	5494.07
MEAN Y VALUE	0.00
# TRAILING ZEROES REMOVED	1
AREA UNDER COMPUTED CURVE	4476.43
ACTUAL AREA (INCL FLAGGED PTS)	4183.00
FRACT COMPUTED AREA OVER ACTUAL	1.07
COEF OF FIT (LOW ORDER FIRST)	-0.2131E+01
	0.1573E+02
	0.3899E+00
	-0.3722E+00
	0.3475E-01
	-0.1422E-02
	0.2979E-04
	-0.3127E-06
	0.1306E-08

PHASE DATE NUMBERS	WEEK NO.	% ACC WEEK
DESIGN	1	1 %
COD/TST	29	54 %
SYS TST	49	92 %
ACC TST	53	100 %
CLEANUP	57	107 %
END CLN	62	116 %

Figure 2-33. GQ Program Output Report (2 of 4)

RESIDUAL REJECT CYCLE #
ORDER OF FIT
TOTAL NUMBER OF POINTS
NUMBER OF POINTS PLOTTED
NUMBER OF FLAGGED POINTS

1
8
63
56
7

TOLERANCE
SIGMA FACTOR
STANDARD DEVIATION
CHI SQUARED

0.50
2.50
10.93
477.74

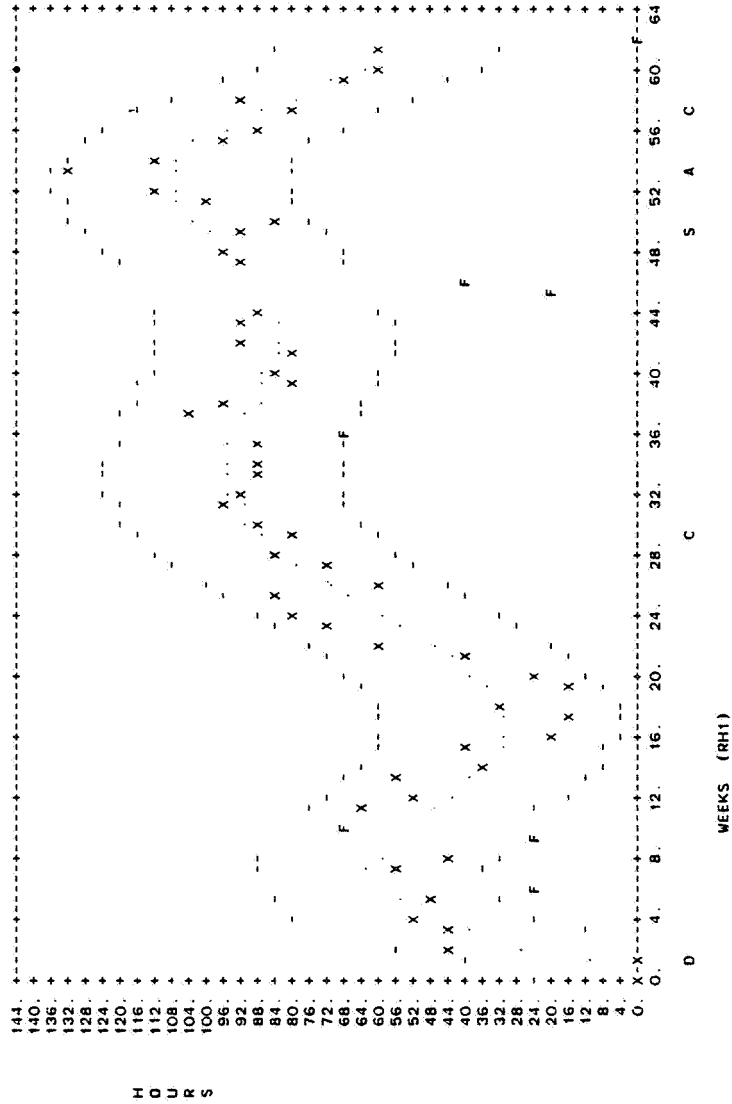


Figure 2-33. GQ Program Output Report (3 of 4)

	X	Y	FIT	RES	FLAG	X	Y	FIT	RES	FLAG	FIT	RES	FLAG
1	0.000	0.000	-2.131	2.131		33	32.000	94.000	95.067		95.067	-1.067	
2	1.000	0.000	-13.647	-13.647		34	33.000	87.000	95.643		95.643	-8.643	
3	2.000	44.000	28.417	15.583		35	34.000	88.000	95.416		95.416	-7.416	
4	3.000	45.000	40.999	4.001		36	35.000	87.000	94.512		94.512	-7.512	
5	4.000	52.000	50.751	1.249		37	36.000	69.000	0.000	F	0.000	0.000	F
6	5.000	50.000	57.443	-7.443		38	37.000	103.000	91.349		91.349	11.651	
7	6.000	26.000	0.000	0.000	F	39	38.000	98.000	89.480		89.480	8.520	
8	7.000	58.000	62.188	-4.188		40	39.000	81.000	87.697		87.697	-6.697	
9	8.000	46.000	60.984	-14.984		41	40.000	84.000	86.202		86.202	-2.202	
10	9.000	24.000	0.000	0.000	F	42	41.000	82.000	85.177		85.177	-3.177	
11	10.000	70.000	0.000	0.000	F	43	42.000	93.000	84.774		84.774	8.226	
12	11.000	66.000	49.332	16.668		44	43.000	93.000	85.101		85.101	7.899	
13	12.000	51.000	44.565	6.435		45	44.000	88.000	86.214		86.214	1.786	
14	13.000	56.000	40.147	15.853		46	45.000	22.000	0.000	F	0.000	0.000	F
15	14.000	36.000	36.448	-0.448		47	46.000	40.000	0.000	F	0.000	0.000	F
16	15.000	40.000	33.753	6.247		48	47.000	94.000	93.840		93.840	0.160	
17	16.000	22.000	32.254	-10.254		49	48.000	98.000	97.314		97.314	0.686	
18	17.000	16.000	32.058	-16.058		50	49.000	94.000	100.828		100.828	-6.828	
19	18.000	33.000	33.187	-0.187		51	50.000	83.000	104.036		104.036	-21.036	
20	19.000	15.000	35.591	-20.591		52	51.000	100.000	106.554		106.554	-6.554	
21	20.000	25.000	39.151	-14.151		53	52.000	114.000	107.979		107.979	6.021	
22	21.000	40.000	43.697	-3.697		54	53.000	134.000	107.927		107.927	26.073	
23	22.000	62.000	49.020	12.980		55	54.000	113.000	106.074		106.074	6.926	
24	23.000	72.000	54.881	17.119		56	55.000	97.000	102.209		102.209	-5.209	
25	24.000	79.000	61.030	17.970		57	56.000	87.000	96.297		96.297	-9.297	
26	25.000	85.000	67.216	17.784		58	57.000	80.000	88.560		88.560	-8.560	
27	26.000	60.000	73.196	-13.196		59	58.000	91.000	79.568		79.568	11.432	
28	27.000	74.000	78.753	-4.753		60	59.000	68.000	70.346		70.346	-2.346	
29	28.000	86.000	83.699	2.301		61	60.000	60.000	62.503		62.503	-2.503	
30	29.000	82.000	87.884	-5.884		62	61.000	60.000	58.371		58.371	1.629	
31	30.000	88.000	91.204	-3.204		63	62.000	0.000	0.000	F	0.000	0.000	F
32	31.000	98.000	93.600	4.400									

Figure 2-33. GQ Program Output Report (4 of 4)

2.8 FORM COUNTER PROGRAM (NF)

2.8.1 INTRODUCTION

2.8.1.1 Function and Purpose

The Form Counter Program (NF) produces a report containing counts of forms in the SEL data base files for a given project. The count is reported by type of form by programmer for the following form types: CRF, CSF, CSR, RAF, and RSF. This report is used to monitor the SEL data base.

2.8.1.2 System Resources

The NF program is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a disk, and a lineprinter. The terminal acts both as an input and an output message device when the user interacts with the program. Input to the program consists of user-entered options and the selected SEL data base files. The SEL data base is presently stored on disk and is on line to the PDP-11/70. The output report is stored on disk by the NF program and may be directed to the lineprinter by the user after the program terminates.

2.8.1.3 Approximate Run Time

The normal execution time of the NF program depends on the size of the project files. The approximate execution times (wall-clock times) for projects of different sizes are listed below. The total number of records is the sum of the records in the CRF, CSF, CSR, RAF, and RSF files for the given project.

<u>Project Name</u>	<u>Total Number of Records</u>	<u>Execution Time (Seconds)</u>
ISEEC	2,418	52.70
AEM	3,296	56.95
MAGSAT	6,010	97.94

<u>Project Name</u>	<u>Total Number of Records</u>	<u>Execution Time (Seconds)</u>
DEA	11,623	168.74
DEB	13,993	232.44

2.8.1.4 Error Messages

The following error messages are produced by the NF program (where the Xs are replaced by the actual values):

```

CHANGE REPORT FILE NOT FOUND
COMPONENT SUMMARY FILE NOT FOUND
COMPONENT STATUS FILE NOT FOUND
PROGRAMMER CODE XXXXX NOT ON ENCODING DICT.
NO RECORDS FOUND
RUN ANALYSIS FILE NOT FOUND
RESOURCE SUMMARY FILE NOT FOUND
MORE THAN MAX OF XXX PROGRAMMERS FOUND
RDCRF-READ ERROR, FORMNO = XXXXXX
RDCSF-DECODE ERROR, FORMNO = XXXXXX, PROGNO = XXXXXX
ERROR IN DECODING RECORD
(FENCA) ERROR IN CONVERTING TO CHARACTER: XXXXXXXX
NAME NOT FOUND OR ERROR IN READING ESTIMATED STATISTICS
RECORD
NAME NOT FOUND OR ERROR IN READING HEADER RECORD
ERROR IN OPENING XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
RAF READ ERROR FORMNO = XXXXXX SEQNO = XX
RSF READ ERROR - FORMNO = XXXXXX SEQNO = XX
FILE NOT FOUND - XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

```

2.8.1.5 Restrictions/Relation to Other Software

There is one restriction in running the NF program: the maximum number of programmers within a given project cannot exceed 30. If more than 30 programmer names are encountered, the following message will appear on the user's terminal--MORE THAN MAX OF 30 PROGRAMMERS FOUND--and the

program will continue to run but will report only on the first 30 programmers.

2.8.2 PROGRAM INVOCATION

To invoke the NF program, the user logs onto the UIC and enters the following command:

```
RUN [204,5]NF
```

2.8.3 PROGRAM OPERATION

After invoking the NF program, the user will be prompted for the project name and should enter the project name of interest. After the forms of the given project have been counted, the message REPORT IS IN FILE <PRJNAM>.NF will inform the user of the output report file name. Here, <PRJNAM> is the name of the specified project. The user will then be prompted for another project name. To terminate execution of the program, the user must enter ^Z (control Z) in response to any prompt. After the program terminates, the user may print the output report by using the PRINT command; for example

```
PRINT <PRJNAM>.NF
```

where <PRJNAM> is the name of the user-selected project.

2.8.4 SAMPLE OUTPUT

Figure 2-34 contains a sample output report produced by the NF program for the DEA project. The top of the report contains a brief summary of the project statistics. The number of person-months, lines, and changes and the phase dates for the project are given. These statistics are obtained from the EST and HDR files. The body of the report contains the count of the number of forms recorded on the SEL data base. This count is reported by type of form and programmer for the following form types: CRF, CSF, CSR, RAF, and RSF. Totals for each form type and each programmer are also given.

16-JUL-82 03:01:15

128 PERSON MONTHS
987 HOURS ON IBM 360
15017 RUNS (ACCOUNTING REPORT)

373 MODULES
67325 SOURCE LINES
2077 CHANGES

FORM COUNT

PROJECT DEA

START
O/ O/ O
79/10/ 1
80/ 5/10
81/ 2/28
81/ 3/28
81/ 6/13
81/ 7/18
81/ 6/13
O/ O/ O

END
O/ O/ O
80/ 5/10
81/ 2/28
81/ 3/28
81/ 6/13
81/ 7/18
O/ O/ O

NUMBER OF FORMS FOR PROJECT DEA

PROGRAMMER	CHANGE REPORT (CRF)	COMPONENT SUMMARY (CSF)	COMPONENT STATUS (CSR)	RUN ANALYSIS (RAF)	RESOURCE SUMMARY (RSF)	TOTAL
1 BAKER	88	117	53	125	5	388
2 GARLAND	27	62	77	52	0	218
3 WELCH	389	63	65	70	0	587
4 G. BROWN	0	9	3	0	0	12
5 PHENNEGER	0	0	62	0	0	62
6 TRAHAN	25	8	36	30	0	99
7 WHITE	0	1	7	7	0	15
8 DANIELS	0	0	19	5	0	24
9 NADELMAN	0	0	52	104	0	156
10 HEMPEL	0	0	4	0	0	4
11 HAYES	0	0	19	112	1	132
12 MCKENDREW	0	0	13	3	0	16
13 ROYSTER	0	0	14	0	0	14
14 SUDDITH	0	0	0	50	0	50
15 LO	0	0	4	0	0	4
16 SARALKAR	0	9	2	0	0	11
17 LIU	0	2	36	0	0	38
18 PAGE	60	1	76	10	6	153
19 GRONDALSKI	0	0	0	0	0	1
20 MCGARRY	0	0	0	0	1	1
21 LINDBOE	375	67	90	62	0	594
22 CROWLEY	0	0	11	0	0	11
TOTAL	964	339	644	630	13	2590

Figure 2-34. NF Program Output Report

2.9 SEL DATA BASE LISTING PROGRAM (LISTDB)

2.9.1 INTRODUCTION

2.9.1.1 Function and Purpose

The SEL Data Base Listing Program (LISTDB) produces formatted and interpreted listings of the following SEL data base files: Attitude Maintenance Change Report (ATM), CIF, CRF, CSF, CSR, Growth History (HIS), RAF, and RSF. The ATM file is not, however, currently in the data base. Encoded field values are replaced with their alphabetic equivalents as contained in the Encoding Dictionary or in tables internal to the program. The contents of date and numeric fields are also verified. Each file listing is written to a separate data set. The output listings may be used to monitor the SEL data base. Samples of the reports produced by the LISTDB program are given in Section 2.9.4.

2.9.1.2 System Resources

The LISTDB program is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a disk, and a lineprinter. The terminal acts both as an input and an output message device when the user interacts with the program. Input to the program consists of user-entered options and the selected SEL data base files. The SEL data base is permanently stored on disk and is on line to the PDP-11/70. The output listings are stored on disk by the LISTDB program and may be directed to the lineprinter by the user after the program terminates.

2.9.1.3 Approximate Run Time

The normal execution time of the LISTDB program depends on the size of the selected SEL data base file. The

approximate execution times (wall-clock times) for small, average, and large files of each file type are listed below.

<u>File Type</u>	<u>Project Name</u>	<u>Number of Records</u>	<u>Execution Time (Seconds)</u>
CIF	FINREP	16	18
	DECAP	278	139
	MAGSAT	895	710
CRF	GSOC	15	40
	ISEEC	240	319
	DEA	964	1025
CSF	AVG	22	33
	AEM	225	223
	SMM	863	863
CSR	FINREP	46	47
	DEDET	1331	681
	DEA	5224	2223
HIS	ISEEC	25	16
	AADS	47	19
	DEA	63	21
RAF	GMAS	45	31
	SEASAT	1312	906
	DEB	7755	4351
RSF	DETRAN	15	27
	ISEEB	99	55
	GMAS	286	131

2.9.1.4 Error Messages

The following error messages are produced by the LISTDB program (where the Xs are replaced by the actual values):

```

***INVALID FILE QUALIFIER = XXXX
***INVALID PROJECT NAME = XXXXXXXX
***ERROR READING ATM FILE FOR XXXXXXXX
***ERROR READING CIF FILE FOR XXXXXXXX
***ERROR READING CRF FILE FOR XXXXXXXX
***ERROR READING CSF FILE FOR XXXXXXXX
***ERROR READING CSR FILE FOR XXXXXXXX

```


***ERROR READING HIS FILE FOR XXXXXXXXX
***ERROR READING RAF FILE FOR XXXXXXXXX
***ERROR READING RSF FILE FOR XXXXXXXXX
***FILE NOT FOUND = XXXXXXXXXXXXX

2.9.1.5 Restrictions/Relation to Other Software

If an SEL data base file selected for listing is currently in use, the LISTDB program will inform the user with the error message FILE NOT FOUND = XXXXXXXXX, where XXXXXXXXX is the project name. LISTDB will continue to list other files selected.

2.9.2 PROGRAM INVOCATION

To execute the LISTDB program, the user may log onto the UIC and enter the following command:

RUN [204,5]LISTDB

Alternatively, the user may log onto UIC [204,3] and enter

@DBLIST

2.9.3 PROGRAM OPERATION

After invoking the LISTDB program, the user will be prompted for up to 20 project names. Responding with ^Z (control Z) will abort the program without listing any files. Any project identified on the Encoding Dictionary will be accepted as a valid response; an error message will be displayed for invalid project names. Entering a carriage return alone will initiate prompting for file qualifiers. ATM, CIF, CRF, CSF, CSR, HIS, RAF, and RSF are the allowed responses. However, the user should not try to enter ATM for the file qualifier because the ATM files are not currently on the SEL data base. ALL may also be specified to indicate all of the abovementioned file types. Responding with ^Z will abort the program without listing any files. File processing begins after the user enters an unaccompanied carriage

return or ALL in response to the prompt for the file qualifier.

All specified files for all specified projects will be listed. Listings will be written to the following data sets:

<u>Input Qualifier</u>	<u>Output Data Set</u>	<u>Comments</u>
CIF	LISTDB.CIF	
CRF	LISTDB.CRF	
	LISTDB.ERR	Error reports only
CSF	LISTDB.CF1	Part 1
	LISTDB.CF2	Part 2
	LISTDB.CF3	Part 3
CSR	LISTDB.CSR	
HIS	LISTDB.HIS	
RAF	LISTDB.RAF	
RSF	LISTDB.RSF	
ATM	LISTDB.ATM	

One copy of each file listed will automatically be spooled to the lineprinter if the user logs onto UIC [204,3] and enters @DBLIST. Otherwise, the user may use the PRINT command to print the desired listings.

The report for each file will be assigned to a new version of the indicated data set. The first step of the DBLIST.CMD command procedure, however, is to delete all previous versions of LISTDB output data sets. The user must therefore rename any data sets he/she wishes to retain before any subsequent runs of the LISTDB program using the DBLIST.CMD command procedure. The number of projects and the file types selected for listing will be displayed on the user's terminal at the time file processing begins.

2.9.4 SAMPLE OUTPUT

Figures 2-35 through 2-41 are samples of the output reports produced by the LISTDB programs for the following file types:

1. CIF for project FOXPP
2. CRF file for project GSOC, containing two parts--
change report and error report
3. CSF file for project AVG, containing three parts
4. CSR file for project FINREP
5. HIS file for project ISEEC
6. RAF file for project GMAS
7. RSF file for project DETRAN

The top of each listing contains titles for each field; the bottom of the listing contains the record count for the source data set. The indications of validation errors included in the file listings are explained below.

- ????... is substituted for most unacceptable values (for example, invalid date, invalid numeric format, unrecognized code).
- DATE*ERR is used to mark cumulative history records with an invalid date. (The date is needed to identify the record.)
- *ERR* appears in the other-activity-hours field of a component status record to indicate that both the component and the other-activity areas contain data. (Only the component data are displayed.)

GSOC CHANGE REPORT FILE

FORM NUMBER *****	PROGRMER *****	FORM DATE *****	COMPONENTS ----- CHGD EXMD ****		COMPONENT CHANGED *****	NEED DETRMD *****	CHANGE STARTD *****	EFORT TO IMPLEMNT *****	CHANGE TYPE(S) *****	>1CMP AFCTD *****	ERROR REPRT *****	STAT FLAG ****
K00438	NEAL	790308	3		HO20GDIS H120GART	790307	790308	1HR1DAY	ERRCORR	YES	YES	1
K00489	NEAL	790316	2		H220GCPT HO20GDIS H120GART	790315	790315	1HRLESS	ERRCORR	YES	YES	1
K00490	NEAL	790316	2		H220GCPT HO20GDIS H120GART	790312	790312	1DAY3DAY	ENHANCE	YES		1
K00634	NEAL	790419	1		HO20GDIS	790401	790401	1DAY3DAY	ERRCORR	NO	YES	1
K00635	NEAL	790419	2	2	H120GART H220GCPT	790401	790401	MORE3DAY	ENHANCE	NO		1
K00636	NEAL	790419	2		OGSENSOR OGGSTCOM	790416	790416	1HRLESS	REQMNTS	NO		1
K00637	NEAL	790419	7		OGGOCNL OGGCCDUM OGGCCULT OGEFFOCC OGSHFTR4	790315	790317	1DAY3DAY	ERRCORR	YES	YES	1
K00638	NEAL	790419	8		OGGSTAR1 OGGSINIT OGGSTSEL OGGCCULT OGEFFOCC	790401	790401	MORE3DAY	ENHANCE	YES	YES	1
K00639	NEAL	790419	1		OGGSTGUT	790328	790401	1HR1DAY	ERRCORR	NO	YES	1
K00640	NEAL	790419	1			790416	790416	1HRLESS	ERRCORR	NO	YES	1
K00641	NEAL	790419	2		OGHORIZ OGLIT	790419	790419	1HRLESS	ERRCORR	YES	YES	1
K01282	NEAL	790927	5	0	NLOCNAML OGGCCOM OGGOCNL OGPREDOC OGCCRES	790914	790914	1DAY3DAY	ENHANCE REQMNTS IMPSERVE	YES		1
K01459	NEAL	790707	1	0		790725	790725	1HR1DAY	ENHANCE			1
K01460	NEAL	790815	5	0	HO20GDIS H120GART H220GCPT OGEFFOCC OGFILDAT	790323	790410	MORE3DAY	ENHANCE			1
K01461	NEAL	790830	1	0	H120GART	790801	790820	1DAY3DAY	IMPCMD			

+++ 15 RECORDS DISPLAYED

Figure 2-36. CRF File LISTDB Report (1 of 2)

GSOC ERROR REPORT INFORMATION (FROM CRF)

FORM NUMBER *****	TYPE(S) OF ERROR *****	DESIGN ERR DATA CNTL ****	ERROR ISOLATION ACTIVITIES			TIME TO ISOLATE *****	WORK ARND ****	PREVIOUS CHANGE			ERR ENTD SYSTEM *****	
			PGM VALI *****	DETECTED *****	ATTEMPTD *****			ISOLATED *****	EXST ****	NUMBR *****		DATE *****
K00438	LANGUAGE CLERICAL		PREACC			SYSTEM	1HR1DAY		NO			CODETEST
K00489	CLERICAL		INSPECT INSPECT INSPECT INSPECT INSPECT	RDPRGMR	SYSTEM SYSTEM SYSTEM		1HRLESS	NO	NO			CODETEST
K00634	ONECOMP	YES	INSPECT INSPECT INSPECT INSPECT	RDPRGMR			MORE1DAY		NO			DESIGN
K00637	CLERICAL		INSPECT INSPECT PREACC	RDPRGMR RDPRGMR INSPECT INSPECT SYSTEM SYSTEM			MORE1DAY		NO			CODETEST
K00638 K00639	FUNCSPEC ONECOMP	YES	INSPECT SYSTEM	TRACE TRACE DUMP	DUMP		1HR1DAY		NO			DESIGN
K00640	CLERICAL		TRACE INSPECT INSPECT	RDPRGMR RDPRGMR			1HRLESS		NO			CODETEST
K00641	SEVCOMPS	YES	RDPRGMR RDPRGMR RDPRGMR RDPRGMR RDOTHER				1HRLESS		NO			DESIGN

+++ 8 RECORDS DISPLAYED

Figure 2-36. CRF File LISTDB Report (2 of 2)

AVG COMPONENT SUMMARY (PART 1)										
FORM NUMBER *****	FORM DATE *****	PROGRAMMERS		COMPONENT *****	STATUS *****	SOFTWARE TYPE *****	FORM OF DESIGN *****	LEVEL(S) OF DETAIL *****	PRECISION OF SPECS *****	STAT FLAG ****
		REPORTER *****	IMPLEMTR *****							
E00480	770131	????????	????????	AVCIRP	????????		FUNCTIONAL PROCEDURE ENGLISH FORMAL OTHER	????????	PRECISE	1
E00481	770131	????????	????????	AVCQEF	????????		FUNCTIONAL PROCEDURE ENGLISH FORMAL OTHER	????????	PRECISE	1
E00482	770301	????????	????????	AVDYNR	????????		FUNCTIONAL PROCEDURE ENGLISH FORMAL OTHER	????????	PRECISE	1
E00483	761213	SAENZ		AVGVOP			FUNCTIONAL PROCEDURE ENGLISH FORMAL OTHER		PRECISE	1
E00484	770131	????????	????????	AVINT	????????		FUNCTIONAL PROCEDURE ENGLISH FORMAL OTHER	????????	PRECISE	1
E00485	770131	????????	????????	AVINTP	????????		FUNCTIONAL PROCEDURE ENGLISH FORMAL OTHER	????????	PRECISE	1
E00486	770301	????????	????????	AVINST	????????		FUNCTIONAL PROCEDURE ENGLISH FORMAL OTHER	????????	PRECISE	1
E00487	770131	????????	????????	AVPROP	????????		FUNCTIONAL PROCEDURE ENGLISH FORMAL OTHER	????????	PRECISE	1
E00488	770517	SAENZ	SAENZ	ANAVR	????????		FUNCTIONAL PROCEDURE ENGLISH FORMAL OTHER			

Figure 2-37. CSF File LISTDB Report (1 of 7)

AVG COMPONENT SUMMARY (PART 1)										
FORM NUMBER *****	FORM DATE *****	PROGRAMMERS		COMPONENT *****	STATUS *****	SOFTWARE TYPE *****	FORM OF DESIGN *****	LEVEL(S) OF DETAIL *****	PRECISION OF SPECS *****	STAT FLAG ****
		REPORTER *****	IMPLENTR *****							
EO0489	770131	????????	????????	AVRAGE	????????		FUNCTNAL PROCURL ENGLISH FORMAL OTHER	????????	PRECISE	1
EO0490	770131	????????	????????	AVSTRT	????????		FUNCTNAL PROCURL ENGLISH FORMAL OTHER	????????	PRECISE	1
EO0491	770131	????????	????????	AVSTVL	????????		FUNCTNAL PROCURL ENGLISH FORMAL OTHER	????????	PRECISE	1
EO0492	770408	SAENZ	SAENZ	AUXPAR	????????		FUNCTNAL PROCURL ENGLISH FORMAL OTHER	????????	PRECISE	1
EO0494	761221	????????	????????	QUAD	????????		FUNCTNAL PROCURL ENGLISH FORMAL OTHER	????????	VERYPREC	1
EO0495	761221	????????	????????	CONTER	????????		FUNCTNAL PROCURL ENGLISH FORMAL OTHER	????????	VERYPREC	1
EO0496	761221	????????	????????	CONITR	????????		FUNCTNAL PROCURL ENGLISH FORMAL OTHER	????????	VERYPREC	1
EO0497	761221	????????	????????	EECC	????????		FUNCTNAL PROCURL ENGLISH FORMAL OTHER	????????	VERYPREC	1
EO0498	761221	????????	????????		????????		FUNCTNAL PROCURL ENGLISH FORMAL OTHER	????????	VERYPREC	1

Figure 2-37. CSF File LISTDB Report (2 of 7)


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AVG      COMPONENT SUMMARY (PART 1)

FORM      FORM      PROGRAMMERS
NUMBER    DATE    REPORTER  IMPLMTR  COMPONENT  STATUS  SOFTWARE  FORM OF  LEVEL(S) OF DETAIL  PRECISION  STAT
*****    *****  *****  *****  *****  *****  TYPE      DESIGN   *****  *****  OF SPECS  FLAG
*****    *****  *****  *****  *****  *****  *****  *****  *****  *****  *****  ****

E00500  761213  ????????? ?????????          ?????????          FUNCTNAL  IMPRECIS  1
                                ENGLISH  ?????????
                                FORMAL
                                OTHER
E00501  761213  ????????? ?????????          ?????????          FUNCTNAL  IMPRECIS  1
                                ENGLISH  ?????????
                                FORMAL
                                OTHER
E00502  761213  ????????? ?????????          ?????????          FUNCTNAL  IMPRECIS  1
                                ENGLISH  ?????????
                                FORMAL
                                OTHER
E00504  761221  ????????? ?????????  CONINT  ?????????          FUNCTNAL  VERYPREC  1
                                ENGLISH
                                FORMAL
                                OTHER

+++  22 RECORDS DISPLAYED

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Figure 2-37. CSF File LISTDB Report (3 of 7)

AVG COMPONENT SUMMARY (PART 2)

FORM NUMBER *****	COMPONENT *****	COMPONENT CALLED *****	FAN OUT ****	FAN IN ****	COMPONENTS		PROGRAMING LANGUAGE *****	% USE ***	CONSTRAINTS				SIZE	
					SHRD	DESC			TYPES OF	PRES	SATF	NOCMT	STMTS	BYTES
EOO480	AVCIRP	CCEE	1	1			FORTRAN	100	MEMORY EXECTION OTHER				4	
EOO481	AVCQEF						FORTRAN	100	MEMORY EXECTION OTHER				4	
EOO482	AVDYNR				5		FORTRAN	100	MEMORY EXECTION OTHER				3	
EOO483	AVGVOP	AVINT AVPROP AVINTP	3	0	0	0	FORTRAN	100	MEMORY EXECTION OTHER				25	
EOO484	AVINT	AVCIRP AVDYNR AVSTRT AVINST	5	5			FORTRAN	100	MEMORY EXECTION OTHER				5	
EOO485	AVINTP	EECC INTPAR	3	3			FORTRAN	100	MEMORY EXECTION OTHER				3	
EOO486	AVINST				2		FORTRAN	100	MEMORY EXECTION OTHER				10	
EOO487	AVPRGP	CSTEPX AVSTOP	2	2			FORTRAN	100	MEMORY EXECTION OTHER				3	
EOO488	ANAVR	PTHIRD PZONAL EVAL	3	3			FORTRAN	100	MEMORY EXECTION OTHER				5	
EOO489	AVRAGE		5	5			FORTRAN	100	MEMGRY EXECTION OTHER				8	
EOO490	AVSTRT	AVRAGE AVSTVL	2	2			FORTRAN	100	MEMORY EXECTION OTHER				4	
EOO491	AVSTVL	AVCQEF	1	1			FORTRAN	100	MEMORY EXECTION OTHER				4	
EOO492	AUXPAR				2		FORTRAN	100	MEMORY EXECTION OTHER				3	
EOO494	QUAD	CCEE GETVCT	2	2			FORTRAN	100	MEMORY EXECTION OTHER	YES				

Figure 2-37. CSF File LISTDB Report (4 of 7)

AVG COMPONENT SUMMARY (PART 2)														
FORM NUMBER *****	COMPONENT *****	COMPONENT CALLED *****	FAN OUT ****	FAN IN ****	COMPONENTS		PROGRAMM LANGUAGE *****	% USE ---	CONSTRAINTS			SIZE		
					SHRD ****	DESC ****			TYPES OF *****	PRES ****	SATF ****	NOCMT *****	STMTS *****	BYTES *****
E00495	CONTER	QUAD EECC	4	4			FORTRAN	100	MEMORY EXECTION OTHER	YES				
E00496	CONITR	EVAL QUAD GETVCT CCEE	3	3			FORTRAN	100	MEMORY EXECTION OTHER	YES				
E00497	EECC						FORTRAN	100	MEMORY EXECTION OTHER	YES				
E00498							FORTRAN	100	MEMORY EXECTION OTHER					
E00500			3	3			FORTRAN	100	MEMORY EXECTION OTHER	YES				
E00501							FORTRAN	100	MEMORY EXECTION OTHER					
E00502							FORTRAN	100	MEMORY EXECTION OTHER	YES				
E00504	CONINT	GETHDR CCEE EVAL	5	5			FORTRAN	100	MEMORY EXECTION OTHER	YES				
+++	22 RECORDS DISPLAYED													

Figure 2-37. CSF File LISTDB Report (5 of 7)

AVG		COMPONENT SUMMARY (PART 3)												
FORM NUMBER	COMPONENT	COMPLXTY	% STATEMENTS			PHASES	RESOURCES USED			COMPLT DATE	IND S/W	RELTN TO OTHR S/W	TYPE OF ADDITION	COMPONENT REORGNZD
			AST	CTL	OTH		RUNS	CPU-M	MAN-H					
*****	*****	*****	***	***	***	*****	****	*****	*****	*****	***	*****	*****	*****
EOO480	AVCIRP	MODERATE	70	20		DESIGN		.3	4.0	770101	NO			
						CODE		.5	1.0	770101				
						TEST		1.0	1.0	770101				
EOO481	AVCOEF	HARD	80	10		DESIGN		.3	4.0	770101	NO			
						CODE		.5	1.0	770201				
						TEST		1.0	1.0	770301				
EOO482	AVDYNR	HARD	80	10		DESIGN		.1	.3	770301	NO			
						CODE		.1	.3	770301				
						TEST		.1	.2	770301				
EOO483	AVGVOP	MODERATE	65	25		DESIGN		3.0	30.0	770101	YES			
						CODE		8.0	5.0	770101				
						TEST			5.0	770201				
EOO484	AVINT	MODERATE	70	20		DESIGN		.3	4.0	770101	NO			
						CODE		.5	1.0	770201				
						TEST		1.0	1.0	770301				
EOO485	AVINTP	MODERATE	80	10		DESIGN		.3		770101	NO			
						CODE		.5		770201				
						TEST		1.0		770301				
EOO486	AVINST	HARD	85	5		DESIGN		.1	.2	770301	NO			
						CODE		.1	.2	770301				
						TEST		.1	.1	770301				
EOO487	AVPROP	MODERATE	70	20		DESIGN		.3	4.0	770101	NO			
						CODE		.5	1.0	770201				
						TEST		1.0	1.0	770301				
EOO488	ANAVR	HARD	80	15		DESIGN			.8	770501	NO			
						CODE			.4	770501				
						TEST		.1	.4	770501				
EOO489	AVRAGE	HARD	80	10		DESIGN		.3	4.0	770101	NO			
						CODE		.5	1.0	770201				
						TEST		1.0	1.0	770301				
EOO490	AVSTRT	MODERATE	70	20		DESIGN		.3	4.0	770101	NO			
						CODE		.5	1.0	770201				
						TEST		1.0	1.0	770301				
EOO491	AVSTVL	HARD	80	10		DESIGN		.3	4.0	770101	NO			
						CODE		.5	1.0	770201				
						TEST		1.0	1.0	770301				
EOO492	AUXPAR	HARD	90	2		DESIGN			.4	770401	NO			
						CODE			.3	770401				
						TEST		.1	.4	770401				
EOO494	QUAD	MODERATE	85	15		DESIGN		.2	2.0	770120	NO			
						CODE		1.2	3.0	770210				
						TEST		2.4	3.0	770220				

Figure 2-37. CSF File LISTDB Report (6 of 7)

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AVG      COMPONENT SUMMARY (PART 3)

FORM      % STATEMNTS      RESOURCES USED
NUMBER    COMPONENT    COMPLYTY    AST CTL OTH    PHASES    RUNS    CPU-M    MAN-H    COMPLY    IND    RELTN TO    TYPE OF    COMPONENT
*****    *          *          *** ** **    *****    ***    *      *      *          *      *      *      *      *

```

FORM NUMBER	COMPONENT	COMPLYTY	AST	CTL	OTH	PHASES	RUNS	CPU-M	MAN-H	COMPLY DATE	IND S/W	RELTN TO OTHR S/W	TYPE OF ADDITION	COMPONENT REORGNZD
E00495	CONTER	HARD				DESIGN		.1	1.2	761222	NO			
						CODE		.2	.8	761229				
						TEST		.2	.8	770115				
E00496	CONITR	HARD				DESIGN		.1	1.0	761230	NO			
						CODE		.2	2.0	770115				
						TEST		.3	2.0	770215				
E00497	EECC	MODERATE	90	10		DESIGN		.1	1.0	770115	NO			
						CODE		.5	2.0	770130				
						TEST		1.0	2.0	770215				
E00498		HARD	50	50		DESIGN		.1	.4	770115	NO			
						CODE		.2	.8	770121				
						TEST		.2	.8	770215				
E00500		MODERATE				DESIGN		.1	.5	761210	NO			
						CODE		.5	1.0	770201				
						TEST		.5	1.0	770301				
E00501		MODERATE	70	20		DESIGN		.4	2.8	761210	NO			
						CODE		3.0	4.0	770301				
						TEST		4.0	4.0	770401				
E00502		MODERATE	75	15		DESIGN		.3	2.6	761210	NO			
						CODE		3.0	4.0	770301				
						TEST		4.0	4.0	770401				
E00504	CONINT					DESIGN		.	.	??????				
						CODE		.	.	??????				
						TEST		.	.	??????				

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+++  22 RECORDS DISPLAYED

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Figure 2-37. CSF File LISTDB Report (7 of 7)

FINREP COMPONENT STATUS REPORTS

FORM NUMBER	PH- ASE	PROGRMER	FORM DATE	COMPONENT (ACTVTY)	DESIGN			CODING			TESTING			OTHER ACTIV	STAT FLAG	#
					CREAT	READ	REVM	CODE	READ	REVM	UNIT	INTEG	REVM			
B00998	DEV	RABBIN	771007	SYSTEMDE MEETINGS TRAVEL	8.0	.0	.0	.0	.0	.0	.0	.0	.0	3 5	2	1
				FINREP	8.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	2	2
B01088	DEV	ONEILL	771021	FINREP	.0	2.0	.0	.0	.0	.0	.0	.0	.0		2	4
				FORMS										2.0	2	1
B01089	DEV	RABBIN	771014	FINREP	20.0	.0	.0	4.0	.0	.0	.0	.0	.0		2	2
				JMATCH	1.0	.0	.0	.5	.0	.0	.0	.0	.0		2	1
				TRAVEL										1.0	2	2
B01090	DEV	RABBIN	771021	FINREP	.0	.0	.0	27.0	.0	.0	.0	.0	.0		2	3
				JMATCH	.0	.0	.0	.2	.0	.0	.0	.0	.0		2	1
				TRAVEL										2.0	2	2
B01091	DEV	RABBIN	771028	FINREP	3.0	.0	.0	15.0	.0	.0	.0	.0	.0		2	3
				FININIT	1.0	.0	.0	1.0	.0	.0	.0	.0	.0		2	1
				TRAVEL										1.0	2	2
				FORMS										2.0	2	3
B01437	DEV	ONEILL	771104	FINREP	.0	2.0	.0	.0	.0	.0	.0	.0	.0		2	4
				\$\$\$SYSTAP										2.0	2	1
B01438	DEV	RABBIN	771104	FINREP	.0	.0	.0	18.0	.0	.0	.0	.0	.0		2	2
				FININIT	2.0	.0	.0	2.0	.0	.0	.0	.0	.0		2	1
				TRAVEL										2.0	2	2
B01439	DEV	RABBIN	771202	FINREP	.0	.0	.0	7.0	.0	.0	4.0	.0	.0		2	3
				TRAVEL										1.0	2	1
				\$\$\$SYSTAP										1.0	2	2
				SYSTEMDE	2.0	.0	.0	.0	.0	.0	.0	.0	.0		2	3
B01440	DEV	ONEILL	771111	FINREP	.0	1.0	.0	.0	1.0	.0	.0	1.0	.0		2	4
B01441	DEV	RABBIN	771111	FINREP	.0	.0	.0	5.0	.0	.0	.0	.0	.0		2	1
				FINTPR	.0	.0	.0	5.0	.0	.0	18.0	.0	.0		2	2
				JMATCH	.0	.0	.0	.0	.0	.0	1.0	.0	.0		2	3
				TRAVEL										6.0	2	4
B01442	DEV	RABBIN	771118	FINREP	.0	.0	.0	.0	.0	.0	.0	10.0	.0		2	1
				FINTPR	.0	.0	.0	.0	.0	.0	2.0	4.0	.0		2	2
				FINPJ	.5	.0	.0	.5	.0	.0	.0	.0	.0		2	3
				FINDKO	.5	.0	.0	1.0	.0	.0	1.0	.0	.0		2	4
				FINDK1	.5	.0	.0	1.0	.0	.0	1.0	.0	.0		2	5
				FINI11	1.0	.0	.0	1.0	.0	.0	1.0	.0	.0		2	6
				TRAVEL										2.5	2	7
B01443	DEV	RABBIN	771123	FINREP	.0	.0	.0	.0	.0	.0	7.0	3.0	.0		2	1
B01539	DEV	RABBIN	780106	FINREP	.0	.0	.0	.0	.0	.0	20.0	4.0	.0		2	1
				FINPJ	.0	.0	.0	.0	.0	.0	4.0	.0	.0		2	2
B01540	DEV	RABBIN	780113	FINREP	.0	.0	.0	.0	.0	.0	12.0	.0	.0		2	1
B01541	DEV	RABBIN	780120	FINREP	.0	.0	.0	.0	.0	.0	8.0	.0	.0		2	1
B01542	DEV	RABBIN	780127	FINREP	.0	.0	.0	.0	.0	.0	8.0	.0	.0		2	1
B01543	DEV	RABBIN	780203	FINREP	.0	.0	.0	.0	.0	.0	5.0	.0	.0		2	1
B01635	DEV	RABBIN	780421	FINREP	.0	.0	.0	.0	.0	.0	20.0	8.0	.0		2	1

Figure 2-38. CSR File LISTDB Report (1 of 2)

FORM NUMBER	PH- ASE	PROGRMER	FORM DATE	COMPONENT (ACTVITY)	DESIGN			CODING			TESTING			OTHER ACTIV	STAT FLAG	#
					CREAT	READ	REVW	CODE	READ	REVW	UNIT	INTEG	REVW			
*****	***	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
				FINPJ	.0	.0	.0	.0	.0	.0	2.0	.0	.0		2	2

Figure 2-38. CSR File LISTDB Report (2 of 2)

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ISEEC      CUMULATIVE HISTORY DATA

          COUNTS AT DATA DATE
DATA ----- STAT
DATE  LINES  MODULES  CHANGES  FLAG
=====
771216                52      2
771223                71      2
771230                90      2
780106      71123      411     106      2
780113      71895      419     136      2
780120      71859      420     170      2
780127      69456      404     189      2
780203      69713      405     197      2
780210      71002      408     232      2
780217      71243      408     247      2
780224      71304      408     257      2
780303      71617      408     261      2
780310      72906      408     318      2
780317      73083      408     326      2
780324      73151      408     328      2
780331      73591      409     361      2
780407      74769      420     431      2
780414      74313      417     452      2
780421      74462      417     478      2
780428      74527      417     480      2
780505      75145      421     483      2
780512      75145      421     483      2
780519      75145      421     483      2
780526      75145      421     483      2
780602      75145      421     483      2

+++      25 RECORDS DISPLAYED

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Figure 2-39. HIS File LISTDB Report

GMAS RUN ANALYSIS FORMS																		
FORM NUMBER	PROGRAMMER	COMPUTER	RUN DATE	INTER ACTIV	RUN PURPOSES	# OF CMPS	COMPONENT	FST RUN	MET OBJ	RUN RESULTS	STAT FLAG							
JO1422	KNOWLES		790115		MAINTUTL	5	GMAANDB		YES	GOODRUN	1							
							GMAEGHES											
							GMAANALYT											
							GMAANAVR											
							GMAANRES											
							GMAANSTOP											
							GMAARGCRD											
							GMASTOP1											
							GMAVCFNT											
							GMAVCIIRP											
							GMAVCOEF											
							GMAVDYNR											
							GMAVGVOP											
							GMAVGVOPD											
							GMAVINST											
							JO1553	KNOWLES		790115		MAINTUTL	0	GMAVINT		YES	GOODRUN	1
GMAVPROP																		
GMAVRAGE																		
GMAVSTOP																		
GMAVSTRT																		
GMAVSTVL																		
GMBDFORI																		
GMBDGPEN																		
GMBDORFR																		
GMCNONT																		
GMCNITR																		
GMCOPYFL																		
GMASTOP1																		
GMAVGVOP																		
JO1553	KNOWLES		790227		MAINTUTL	2								GMAVINT		YES	GOODRUN	1
														GMAVPROP				
							GMAVRAGE											
							GMAVSTOP											
							GMAVSTRT											
							GMAVSTVL											
							GMBDFORI											
							GMBDGPEN											
							GMBDORFR											
							GMCNONT											
							GMCNITR											
							GMCOPYFL											
							GMASTOP1											
							GMAVGVOP											
							JO1553	KNOWLES		790302		MAINTUTL	0	GMAVINT		YES	GOODRUN	1
														GMAVPROP				
GMAVRAGE																		
GMAVSTOP																		
GMAVSTRT																		
GMAVSTVL																		
GMBDFORI																		
GMBDGPEN																		
GMBDORFR																		
GMCNONT																		
GMCNITR																		
GMCOPYFL																		
GMASTOP1																		
GMAVGVOP																		

Figure 2-40. RAF File LISTDB Report (1 of 3)

GMAS RUN ANALYSIS FORMS												
FORM NUMBER	PROGRAMMER	COMPUTER	RUN DATE	INTER ACTIV	RUN PURPOSES	# OF CMPS	COMPONENT	FST RUN	MET OBJ	RUN RESULTS	STAT FLAG	#
JO1880	HOLMES	360-95	790321		BNCMRKT	0			YES	GOODRUN	1	7
			790321		BNCMRKT	0			YES	GOODRUN	1	8
			790611		MAINTUTL				YES	GOODRUN	1	1
			790611		CMPSLNK				YES	GOODRUN	1	2
			790611		MAINTUTL				YES	GOODRUN	1	3
			790611		MAINTUTL				YES	GOODRUN	1	4
			790611		MAINTUTL				YES	GOODRUN	1	5
			790611		MAINTUTL	1	GMSHDCNV		NO	OTHERSET	1	6
			790611		MAINTUTL	1	GMSHDCNV		YES	GOODRUN	1	7
			790613		MAINTUTL							

+++ 52 RECORDS DISPLAYED

Figure 2-40. RAF File LISTDB Report (3 of 3)

DETRAN RESOURCE SUMMARY																	
FORM NUMBER		FORM DATE		PH- ASE		DATA STARTS											
=====		=====		=====		=====											
COO262		800808		DEV		800606											
				HOURS USED (RUNS IN PARENTHESES, IF APPLICABLE)													

RESOURCE TYPE		RESOURCE NAME															
=====		=====															
##		6/6	6/13	6/20	6/27	7/4	7/11	7/18	7/25	8/1	8/8	8/15	% MNGMT	STAT FLAG	=====		
1	MANPOWER		.0	1.0	1.0	.0	.0	2.0	1.0	1.0	.0	.	100	2			
2	COMPUTER		.0	.0	.0	.0	.1	.0	.0	.0	.1	.		2			
		(0)	(0)	(0)	(0)	(0)	(3)	(2)	(0)	(0)	(1)	(.)					
3			.0	.0	.0	.0	.0	.0	.0	.0	.0	.		2			
		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(.)					

Figure 2-41. RSF File LISTDB Report (1 of 5)

DETRAN RESOURCE SUMMARY														
FORM NUMBER		FORM DATE		PH-ASE	DATA STARTS									
=====		=====		=====	=====									
COO286		810306		DEV	810102									
		HOURS USED (RUNS IN PARENTHESES, IF APPLICABLE)												

RESOURCE TYPE	RESOURCE NAME	1/2	1/9	1/16	1/23	1/30	2/6	2/13	2/20	2/27	3/6	3/13	% MNGMT	STAT FLAG
==	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
1	MANPOWER		.0	1.0	1.0	1.0	.0	1.0	.0	1.0	1.0	.	100	2
2	COMPUTER	360-95	2.8	2.8	2.5	2.5	2.1	2.0	.2	.2	.6	.5	.	2
			(78)	(79)	(48)	(48)	(43)	(42)	(15)	(14)	(15)	(15)	()	
3		360-75	1.2	1.2	.9	.9	.5	.5	.1	.0	.1	.1	.	2
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	()	

Figure 2-41. RSF File LISTDB Report (2 of 5)

DETRAN		RESOURCE SUMMARY		HOURS USED (RUNS IN PARENTHESES, IF APPLICABLE)														STAT	
FORM	FORM	PH-	DATA																
NUMBER	DATE	ASE	STARTS																
=====	=====	=====	=====																
COO293	810515	DEV	810313																
##	RESOURCE	NAME	3/13	3/20	3/27	4/3	4/10	4/17	4/24	5/1	5/8	5/15	5/22	%	STAT				
==	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====				
1	MANPOWER	MCGARRY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	100	2				
2	COMPUTER	360-95	.2	.5	.2	.2	.2	1.3	1.2	.0	.0	.0	.0		2				
			(15)	(15)	(8)	(8)	(21)	(20)	(2)	(2)	(0)	(0)	(0)						
3		360-75	.0	.1	.1	.0	.1	.9	.9	.0	.0	.0	.0		2				
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)						

Figure 2-41. RSF File LISTDB Report (3 of 5)

DETRAN		RESOURCE SUMMARY			
FORM NUMBER	FORM DATE	PH- ASE	DATA STARTS		
=====	=====	=====	=====	=====	
CO0309	801017	DEV	800815		

##	RESOURCE TYPE	RESOURCE NAME	HOURS USED (RUNS IN PARENTHESES, IF APPLICABLE)												% MNGMT	STAT FLAG
			8/15	8/22	8/29	9/ 5	9/12	9/19	9/26	10/ 3	10/10	10/17	10/24			
1	MANPOWER	MCGARRY	.0	2.0	1.0	1.0	1.0	2.0	1.0	2.0	1.0	1.0	1.0	100	2	
2	COMPUTER	360-95	.0	.0	.1	.0	.1	.2	.1	.1	.1	.0	.0		2	
		(0) (1) (1) (4) (5) (19) (20) (2) (3) (2) ()														
3		360-75	.0	.0	.0	.0	.0	.1	.2	.0	.1	.0	.0		2	
		(0) (0) (0) (0) (0) (0) (0) (0) (0) (0) ()														

Figure 2-41. RSF File LISTDB Report (4 of 5)

DETRAN RESOURCE SUMMARY

FORM PH- DATA
 NUMBER DATE ASE STARTS
 =====
 COO310 801226 DEV 801024

		HOURS USED (RUNS IN PARENTHESES, IF APPLICABLE)															
		RESOURCE	RESOURCE	10/24	10/31	11/ 7	11/14	11/21	11/28	12/ 5	12/12	12/19	12/26	1/ 2	% MNGMT	STAT	FLAG
==		=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
1	MANPOWER	MCGARRY	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0	.0	.	100	2	
2	COMPUTER	360-95	.0	1.3	1.2	.9	.9	.9	1.0	1.0	.5	.5	1.7	.		2	
			(2)	(33)	(33)	(22)	(22)	(22)	(40)	(39)	(16)	(16)	(36)	()			
3		360-75	.0	.1	.0	.2	.1	.1	.1	.1	.1	.0	.9	.		2	
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	()			
+++		15 RECORDS DISPLAYED															

Figure 2-41. RSF File LISTDB Report (5 of 5)

2.10 SEL DATA BASE RECENT ACTIVITY REPORT PROGRAM (RC)

2.10.1 INTRODUCTION

2.10.1.1 Function and Purpose

The SEL Data Base Recent Activity Report Program (RC) generates a one-page report of the additions, deletions, and changes to records in the SEL data base since the last backup date. This information is retrieved from the transaction files, which are sequential disk files containing records of all updates made to the corresponding data base files, as follows:

1. TRANS.CIF (Component Information Transaction File)
2. TRANS.CRF (Change Report Form Transaction File)
3. TRANS.CSF (Component Summary Form Transaction File)
4. TRANS.CSR (Component Status Report Transaction File)
5. TRANS.HIS (Growth History Transaction File)
6. TRANS.RAF (Run Analysis Form Transaction File)
7. TRANS.RSF (Resource Summary Form Transaction File)

The output report may be used to monitor the SEL data base. A sample of the report produced by the RC program is given in Section 2.10.4.

2.10.1.2 System Resources

The RC program is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a disk, and a lineprinter. The terminal acts both as an input and an output message device when the user interacts with the program. Input to the program consists of the transaction files that are stored on disk and are on line to the PDP-11/70. The output report is stored on disk by the RC program and may be directed to the lineprinter by the user after the program terminates.

2.10.1.3 Approximate Run Time

The normal execution time of the RC program depends on the size of the transaction files. For the sample run given in Section 2.10.4, approximately 286 seconds (wall-clock time) were required to execute the program.

2.10.1.4 Error Messages

The following error messages are produced by the RC program (where the Xs are replaced by the actual values):

(SUMTYP) NOT ENOUGH ROOM FOR PROJECT XX

NO CHARACTERS TO BE READ (RDSEQ)

(SUMTYP) TYPE NE A, D, OR C. KACT = XXXXXX ITYP =
XXXXXX IPROJ = XXXXXX
THE RECORD IN ERROR WAS:
XX
XX

ERROR IN OPENING XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

2.10.1.5 Restrictions/Relation to Other Software

If any update function of DBAM that accesses a given transaction file is being run, the RC program will inform the user with the error message ERROR IN OPENING DB0:[204,1] TRANS.XXX, where XXX is the file type (CIF, CRF, CSF, CSR, HIS, RAF, RSF). The program will continue execution; however, the output report for that particular transaction file will contain no adds, no deletes, and no changes. Another restriction in running the RC program is that the maximum number of projects cannot exceed 70. If more than 70 projects are encountered, the following message will be displayed on the user's terminal: (SUMTYP) NOT ENOUGH ROOM FOR PROJECT XX. The program will continue to run with only the first 70 projects.

2.10.2 PROGRAM INVOCATION

To execute the RC program, the user enters the following command on the user's terminal:

```
RUN [204,5]RC
```

2.10.3 PROGRAM OPERATION

After the RC program is invoked, it reads all transaction files and prints a message on the user's terminal, XXXX ADDS, XXXX DELETES, and XXXX CHANGES ON YYY FILES, where XXXX are the counts and YYY is the file type. Before the program terminates, the message DATA BASE ACTIVITY REPORT IS IN FILE 'RECENT.RPT' is displayed on the user's terminal to inform the user of program completion and the output report name. The user may then print the output report by using the PRINT command; for example

```
PRINT RECENT.RPT
```

2.10.4 SAMPLE OUTPUT

Figure 2-42 is a sample output report run on August 18, 1982. The last backup date is shown at the top of the report. The counts of number of records added, deleted, or changed are listed by project names. The second page lists all project names that had no additions, deletions, or changes made.

THESE ARE COUNTS OF HOW MANY RECORDS WERE ADDED, DELETED, OR
CHANGED FOR EACH PROJECT IN THE SEL DATA BASE SINCE THE LAST
TAPE BACKUP (20811). THIS INFORMATION IS OBTAINED FROM THE
TRANSACTION FILES.

PROJECT	CIF		CRF		CSR		CSF		HIS		RSF		RAF		TOTAL			
	ADD	DEL	CHG	ADD	DEL	CHG	ADD	DEL	CHG	ADD	DEL	CHG	ADD	DEL	CHG	ADD	DEL	CHG
1 AADS	0	0	0	9	0	1	0	0	0	0	0	17	0	0	0	9	0	18
2 AADSIM	0	0	0	4	0	1	0	0	0	0	0	0	0	0	0	6	0	1
3 AADS	18	0	0	0	0	0	0	0	33	1	6	0	0	0	0	51	1	6
4 DARES	23	10	0	0	0	0	30	0	4	0	0	0	0	0	0	53	10	4
5 DEB	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	196	49	118
6 DERBY	1	0	0	0	0	0	15	0	0	0	0	0	0	0	0	30	0	0
7 DESTIM	1	0	0	0	0	0	0	0	0	0	0	14	0	0	0	228	2	10
8 ERBS	0	0	0	0	0	0	30	0	0	0	0	0	0	0	0	30	0	0
9 FDRS	1	0	0	0	0	0	17	0	0	0	0	9	0	0	0	27	0	0
10 FOXPRO	38	38	46	0	0	62	0	0	415	0	0	0	0	0	0	38	38	523
11 GEDAP	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	3	1	0
12 GLI	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	6	0	0
13 MAGSAT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92	2	4
14 RADMAS	2	0	0	0	0	0	20	0	0	0	0	0	0	0	0	109	1	35
15 SHM	0	0	373	0	0	0	73	100	19	3	0	0	0	0	0	76	100	392
TOTAL	84	86	419	16	1	64	193	100	438	124	2	27	0	0	0	954	212	1111

Figure 2-42. Recent Activity Report Program (RC) Output (1 of 2)

NO ADDITIONS, DELETIONS, OR CHANGES WERE MADE TO THE FOLLOWING PROJECTS:

1	AEM
2	ADDEEST
3	AVG
4	DBAM
5	DEA
6	DECAP
7	DEDET
8	DEFULL
9	DESERV
10	DETRAN
11	FINREP
12	FLTRGAIN
13	FOCS
14	FOXPP
15	GECS
16	GMAS
17	GSDC
18	ISEEB
19	ISEEC
20	MAGASP
21	MAGBIAS
22	MAGCCP
23	MAGDOG
24	MAGINT
25	MAGIRC
26	MAGLOG
27	MAGNRT
28	MAGTP
29	MARS
30	NPP
31	PAS
32	SAP
33	SEASAT
34	SHMFULL

Figure 2-42. Recent Activity Report Program (RC) Output (2 of 2)

2.11 SEL DATA BASE RECORD COUNTING REPORT PROGRAM (RPSTSCTR)

2.11.1 INTRODUCTION

2.11.1.1 Function and Purpose

The SEL Data Base Record Counting Report Program (RPSTSCTR) counts the number of records in each file in the SEL data base and produces a one-page report of all counts. The file types included in this report are as follows:

1. DIR (File Name and Status File--STAT.HDR)
2. HDR (Phase Dates File--HEADER.HDR)
3. EST (Estimated Statistics File--EST.HDR)
4. CIF (Component Information File)
5. RAF (Run Analysis Form File)
6. CSR (Component Status Report File)
7. CSF (Component Summary Form File)
8. RSF (Resource Summary Form File)
9. CRF (Change Report Form File)
10. CMT (Comment File)
11. HIS (Growth History File)

This report is an important tool for monitoring the SEL data base. A sample of the report produced by the RPSTSCTR program is given in Section 2.11.4.

2.11.1.2 System Resources

The RPSTSCTR program is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a disk, and a lineprinter. The terminal acts both as an input and an output message device when the user interacts with the program. Input to the program consists of user-entered options and the SEL data base files. The SEL data base is stored on disk and is on line to the PDP-11/70. The output report is stored by the RPSTSCTR program on disk and may be directed to the lineprinter by the user after the program terminates.

2.11.1.3 Approximate Run Time

The normal execution time of the RPSTSCTR program depends on the size of the SEL data base. The current data base size is about 11 megabytes. Approximately 6.5 hours (wall-clock time) are required to run this program.

2.11.1.4 Error Messages

The RPSTSCTR program provides the following error messages (where the Xs are replaced with the actual values):

```
OPEN ERR XXXXXXXXXXXXXXXXXXXXXXXXXXXX (XX) ERR = XXXXX
FNFERR = XX
```

```
SKIPPING FNF - XXXXXXXXXXXXXXXXXXXXXXXXXXXX(XX)
```

```
BAD FILESPEC IN INREC--SKIPPING
```

```
DB FILE ERROR ON XXXXXXXXXXXXXXXXXXXXXXXXXXXX(XX) ERR =
XXXXX
```

2.11.1.5 Restrictions/Relation to Other Software

If another user is accessing the SEL data base file at the same time that the RPSTSCTR program is attempting to access it, the RPSTSCTR program will inform the user with the OPEN ERR message, and the program will terminate.

2.11.2 PROGRAM INVOCATION

To execute the RPSTSCTR program, the user enters the following command on the user's terminal:

```
RUN [204,5]RPSTSCTR
```

Before executing the program, however, the user must copy the file [204,1]STAT.HDR to a temporary file under his/her own UIC; for example

```
COP [204,1]STAT.HDR STAT.HDR
```

This temporary copy of the File Name and Status (STS) file is used to identify all the SEL data base files and is updated to reflect the current record counts.

2.11.3 PROGRAM OPERATION

After invoking the RPSTSCTR program, the user will be prompted for the file specification for the copy of the STAT.HDR file. The user should enter the temporary file name of the copy of the [204,1]STAT.HDR file, for example, [204,3]STAT.HDR. The program then executes and prints status messages until it terminates. The output report is written to the STSCTR.RPT file. The user may print this report by using the PRINT command after the program terminates; for example

```
PRINT STSCTR.RPT
```

The user should also copy the temporary copy of the STAT.HDR file back to [204,1]STAT.HDR by using the copy command; for example

```
COP STAT.HDR [204,1]STAT.HDR
```

If the user wishes to keep the output report on disk, it is advisable to rename the output report by using the RENAME command; for example

```
REN STSCTR.RPT STS0819.RPT
```

2.11.4 SAMPLE OUTPUT

Figure 2-43 is a sample output report obtained in August 1982. Project names are listed on the left side of the report; file types are listed across the top. All files reported have one file per project, except for DIR, HDR, and EST, which are single files. A plus sign (+) after a record count indicates that the actual number of records is greater than the number of records indicated on the STS file. (DBAM updates this file each time records are added or deleted.) A minus sign (-) indicates fewer records. In either case, the temporary copy of the STS file is updated to reflect the actual number of records counted. These plus and minus

signs indicate how accurately DBAM keeps track of record additions and deletions.

RECORD COUNTS FOR SEL DB FILES 19-AUG-82

PROJECT	NO	DIR	HDR	EST	CIF	RAF	CSR	CSF	RSF	CRF	CMT	HIS
[204.1]ENCODE	0	318	49	49	0	0	0	0	0	0	0	0
[204.1]GESS	1	0	0	0	191	224	383	121	0	0	146	0
[204.1]AEM	2	0	0	0	336	1164	1528	225	92	287	518	42
[204.1]MARS	3	0	0	0	49	0	138	0	0	0	0	0
[204.1]ISEEB	5	0	0	0	376	2018	1027	126	99	311	1064	36
[204.1]PAS	6	0	0	0	612	1877	1978	175	121	491	1119	53
[204.1]MAGBIAS	7	0	0	0	40	186	153	55	11	50	217	0
[204.1]ISEEC	8	0	0	0	478	992	663	316	60	240	823	25
[204.1]AVG	9	0	0	0	49	403	421	22	0	0	165	0
[204.1]SEASAT	10	0	0	0	702	1312	1165	294-	91	46	423	34
[204.1]NPP	13	0	0	0	53	0	78	0	0	0	0	0
[204.1]SAP	15	0	0	0	87	58	154	0	0	0	36	0
[204.1]FINREP	16	0	0	0	16	0	46	0	0	0	0	0
[204.1]SMM	19	0	0	0	709+	3172	2457+	866-	162	710	3158+	53
[204.1]FLTRGAIN	20	0	0	0	28	74	224	0	20	0	0	0
[204.1]GMAS	21	0	0	0	465	52	0	0	286	183	426+	0
[204.1]MAGSAT	26	0	0	0	900	2587+	2425	542	147	584-	1956+	58
[204.1]FOXPP	34	0	0	0	49-	2	472	0	20	0	0	0
[204.1]FOXPRO	35	0	0	0	110-	77	541	0	63	103	213	0
[204.1]DEA	36	0	0	0	511	5316	5242	388	211	964	5657+	63
[204.1]DEB	37	0	0	0	517	9803+	5375+	428+	216	752	5734+	62
[204.1]DESIM	38	0	0	0	139	587+	726	180+	93	0	383+	54
[204.1]GSDC	39	0	0	0	83	111	512	73+	110	15	128	0
[204.1]DEDET	40	0	0	0	214	1063	1335	68+	145	230	1387	52
[204.1]DEAM	41	0	0	0	0	0	709	161	22	84-	329+	0
[204.1]DECAP	42	0	0	0	279	90	323+	3	79	0	38+	0
[204.1]DESERV	43	0	0	0	140	794	601	0	31	0	725+	0
[204.1]DETRAN	44	0	0	0	67	0	0	0	15	0	0	0
[204.1]AADS	45	0	0	0	636	0	4573+	77+	190	214-	61+	64
[204.1]AADS	57	0	0	0	132	0	3299+	0	159	130-	374+	51
[204.1]AADSIM	58	0	0	0	244	0	639+	0	51	197-	187+	35
[204.1]AODSEST	59	0	0	0	81	0	196	0	42	9	25	62
[204.1]GEOAP	60	0	0	0	67	0	549+	0	32	32+	77+	61
[204.1]RADMAS	61	0	0	0	835+	0	2519+	103+	145	68-	109+	63
[204.1]GLI	62	0	0	0	367	0	1114+	0	124	104	137+	57
[204.1]DARES	63	0	0	0	48	0	490+	0	39	0	0	0
[204.1]DERBY	64	0	0	0	6+	0	132+	0	19	2	0	0
[204.1]ERBS	65	0	0	0	0	0	212+	0	12+	0	0	0
[204.1]FDRS	66	0	0	0	5+	0	91+	0	10+	0	0	0
TOTALS		318	49	49	9621	31962	42290	4223	2917	5806	25718	925

Figure 2-43. SEL Data Base Record Counting Report Program (RPSTSCTR) Output

2.12 COMPONENT NAME REPORT GENERATOR PROGRAM (RPCOMPNM)

2.12.1 INTRODUCTION

2.12.1.1 Function and Purpose

The Component Name Report Generator Program (RPCOMPNM) reads all CIFs on the SEL data base and produces a formatted and alphabetized report of component names and codes for all such files. This report is used to monitor and maintain the SEL data base. A sample of the report produced by the program is given in Section 2.12.4.

2.12.1.2 System Resources

The RPCOMPNM program is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a disk, and a lineprinter. The terminal acts as an output message device when the user interacts with the program. Input to the program consists of the Encoding Dictionary and the CIFs on the SEL data base. The SEL data base is permanently stored on disk and is on line to the PDP-11/70. The output report is stored on disk by the RPCOMPNM program and may be directed to the lineprinter by the user after the program terminates.

2.12.1.3 Approximate Run Time

The normal execution time of the RPCOMPNM program depends on the size of all CIFs on the SEL data base. Approximately 47.5 minutes (wall-clock time) are required to run the program on the current CIFs on the SEL data base.

2.12.1.4 Error Messages

The following error messages are produced by the RPCOMPNM program (where the Xs are replaced by the actual values):

DINIT FAILED XX

ENCODING DICTIONARY NOT FOUND XX

ERROR OPENING ENCODING DICTIONARY XX

```

ERROR READING REC XX
ERROR OPENING CIF FILE XX
FATAL ERROR READING CIF FILE
FILE XXXXXXXXX NOT FOUND - SKIPPED
UNABLE TO OPEN OUTPUT FILE--FATAL
UNABLE TO OPEN PROJECT FILE--FATAL
MISCELLANEOUS ERROR--FATAL
(DOPENR) OPEN ERROR ON FILE:  XXXXXXXXXXXXXXXXXXXXXXXX
***RMS OPEN, ERROR = XXXXXXXXX
***RMS READ, ERROR = XXXXXXXXX
***RMS DISCONNECT, ERROR = XXXXXXXXX
***RMS CLOSE, ERROR = XXXXXXXXX
(GETLEN) A 'X' WAS NOT FOUND IN FILE NAME:
XXXXXXXXXXXXXXXXXXXXX
(GETLEN) RECORD LENGTH NOT FOUND FOR FILE:  XXXXXXXX
XXXXXXXXXXXXXXXXXXXXX

```

2.12.1.5 Restrictions/Relation to Other Software

If another user is accessing the same CIF or the Encoding Dictionary at the same time that the RPCOMPNM program is trying to access it, the RPCOMPNM program will inform the user with the file open error message, and the program will stop executing.

2.12.2 PROGRAM INVOCATION

The user executes the RPCOMPNM program by entering the following command on the user's terminal:

```
RUN [204,5]RPCOMPNM
```

2.12.3 PROGRAM OPERATION

After the user invokes the RPCOMPNM program, the following message will be displayed by the program on the user's terminal: COMRPT V3.02 (today's date). The program then executes and prints status messages. After execution is completed, an output report, COMPNAMES.RPT, is produced.

The user may then print this report by using the PRINT command; for example

```
PRINT COMPNAMES.RPT
```

2.12.4 SAMPLE OUTPUT

The RPCOMPNM program produces a list of component names in the CIF for each project in the SEL data base. Figure 2-44 is a sample from this report for the SEASAT project. The report shows the component names for the project together with their associated component codes. The message NO DATA FOR PROJECT XXXXXX is written to the output report for any project in the data base for which a CIF does not exist (where the Xs are replaced by the name of the project).

PROJECT SEASAT -- 10 COMPONENTS										PAGE 1									
NAME	CODE	NAME	CODE	NAME	CODE	NAME	CODE	NAME	CODE	NAME	CODE	NAME	CODE	NAME	CODE	NAME	CODE	NAME	CODE
\$\$\$ADS	928	AFCHBY	138	AFRESDT	91	CMDBGJPL	841	CMORBIT1	880	CMYLLMS	919	GESSCHK	439	GTGETCOR	610	GTINMADL	650		
\$\$\$ESS	931	AFCOEF	452	AFSHRND	369	CMDCOM	842	CMPCENTS	881	CMORBIT2	920	GTAD2BUF	813	GTGETITM	611	GTINWDS	651		
\$\$\$SEASAT	930	AFCORCON	201	AFSUNRD	225	CMDFREC	843	CMPCFTLG	882	CMYRNUM	921	GTADRID	812	GTGETMAJ	612	GTINXTITM	652		
\$\$\$DA10	934	AFCDISP	277	AFSUNID	92	CMDISGEN	844	CMPLIMS	883	CMYUPLOW	922	GTALPHA	814	GTGETMNR	613	GTINXTORD	653		
\$\$\$FT10	935	AFDCGEN	262	AFSUNDRB	20	CMEXEC	845	CMPMAGVL	884	CNPS	374	GTB2A	580	GTGETREC	614	GTINXTRID	654		
\$\$\$SYSTEM	932	AFDCINIT	279	AFSUNPLT	252	CMEXECON	846	CMPOSTON	885	D	937	GTBCDECB	815	GTGMATEC	615	GTONES	655		
\$\$\$UTL	933	AFDCROSS	212	AFSUNSET	164	CMFERMSG	847	CMPOSTNL	886	DAOREQ	455	GTGRAY	616	GTGRABE	617	GTOPNADL	656		
A	936	AFDCSTAT	263	AFSUNTAN	224	CMFILTFR	848	CMOAFREC	887	DAHOREQ	456	GTBITOUT	576	GTGPABE	617	GTOPNALL	657		
ABADSLTF	323	AFDISATT	46	AFSUNYAW	222	CMGEMCON	849	CMOAFREC	888	DATNCNV	345	GTBIDMAJ	577	GTGPCLS	618	GTOPNDD	658		
ABCD2ALT	387	AFDRECUR	249	AFTANAB	223	CMGENCON	850	CMOAFYAW	889	DANLDR	486	GTBLDORD	578	GTGPHDR	619	GTOPNMSG	659		
ABCONSTS	202	AFORVGNP	137	AFTINDX	19	CMGESMSG	851	CMOARES	890	DATADJ	485	GTBSAMER	579	GTGPMAL	620	GTOPNTLM	660		
ABCSSTATE	264	AFDSPGEN	216	AFTWOSUN	251	CMGSTBLE	852	CMRDJFCN	891	DATAJ	481	GTCLSUB	816	GTGTPCN	621	GTOPNVS	661		
ABDCCOM	261	AFDUNVEC	211	AFVOLRED	148	CMGSTCOM	853	CMRDJFCN	892	DBALFAID	397	GTCLRCOR	817	GTGTPRD	622	GTORDLST	662		
ABFLTLR	283	AFDYNMOD	243	AFWRMGBS	266	CMGTPCN	854	CMRLIMS	893	DBCLERNL	457	GTCLRECL	583	GTGTX2EB	821	GTOUTTAB	663		
ABIRBCON	368	AFEPHDO	149	AFWRTIRB	367	CMGTPNL	855	CMSEACON	894	DBDATBAS	465	GTCLCALL	584	GT12ABS	627	GTPPARMS	664		
ABIRCORDS	310	AFECMPR	165	AFYANMOD	305	CMINTINF	856	CMSEDSRN	895	DBGENCON	362	GTCLSDO	818	GTINPMMSG	624	GTPROPO	823		
ABIRFLAG	311	AFFCOPT	23	AG	289	CMIRCON	857	CMSEGCN	896	DBLTFHD	396	GTCLSTLM	585	GTINPUL	625	GTPROPOX	824		
ABMGACNT	218	AFGETALT	220	AGARTS	454	CMIRCON	858	CMSEGCN	897	DBLTFITP	401	GTCLSDUS	586	GTINTNXT	626	GTPTGMT	867		
ABMGCOM	451	AFGETIME	308	AGCPOINT	180	CMIRFLAG	859	CMSEGCN	898	GTCLFYI	459	GTCLSDUS	587	GTINTNYP	628	GTREADL	868		
ABMGVLNL	189	AFHDCCHK	301	AGDSPLAY	179	CMJPLALG	860	CMSEIZES	899	DBLTSEG	458	GTCLNDEC	588	GTILKUP	629	GTREADS	869		
ABORBELS	285	AFIRBIAS	259	BDETCCOM	573	CMIDM	12	CMSEMONLE	900	DBMASCOM	460	GTCLNVTIM	592	GTLOADOT	630	GTROUNDPK	670		
ABORBIT1	284	AFIRBSUN	365	BDOGCN	574	CMITFHD	861	CMSEMONLE	901	DBMSNCOM	461	GTCLNVTIM	593	GTLOGINF	631	GTREADR	671		
ABPMAGVL	188	AFIRBSUN	366	CINTPF	161	CMITFSEQ	862	CMSEMONLE	902	DBNAMECM	462	GTCLNVTIM	594	GTLOGMY1	632	GTREADNL	672		
ABSIZES	380	AFIRCHK	22	CM	501	CMITFTF	863	CMSEMONLE	903	DBSEACON	463	GTCLNVTIM	595	GTLOGMYN	633	GTREADRI	673		
ABSUNFLG	253	AFIRCDR	203	CMADSLTF	825	CMITFTF	864	CMSEMONLE	904	DBSEDSRN	464	GTCLNVTIM	596	GTLOGNRM	634	GTREADLST	674		
ABSUNMAT	312	AFKMAT	240	CMALFAID	826	CMIMAGCAL	865	CMSEMONLE	905	DFATTDR1	294	GTCLNVTIM	597	GTLOGPRT	635	GTREADTEST	675		
AFADDCOR	386	AFKMAT	240	CMALFAID	826	CMIMAGCAL	865	CMSEMONLE	906	DFCLEAR	337	GTCLNVTIM	598	GTLOGTRM	636	GTREADBLK	676		
AFADDCOR	386	AFKMAT	240	CMALFAID	826	CMIMAGCAL	865	CMSEMONLE	907	DFCTIME	123	GTCLNVTIM	599	GTLOGTRM	637	GTREADCON	677		
AFADNLRD	3	AFMAGPRD	181	CMCLERNL	829	CMIMAGCAL	866	CMSEMONLE	908	DFDATBAS	810	GTCLNVTIM	600	GTLOGTRM	638	GTREADCON	678		
AFADNRL	51	AFMAGVAL	187	CMCNITCON	830	CMIMAGCAL	867	CMSEMONLE	909	DFLTFRD	336	GTCLNVTIM	601	GTLOGTRM	639	GTSETDEF	679		
AFADSDRI	2	AFMATPRD	52	CMC02ALT	833	CMMGCOM	870	CMTHINGS	487	DFLTFWRT	466	GTCLNVTIM	602	GTLOGTRM	640	GTSETDEF	680		
AFATANG	67	AFMCOEF	49	CMCONSTS	831	CMMGVAL	871	CMTHINGS	488	DFLTFWRT	467	GTCLNVTIM	603	GTLOGTRM	641	GTSETDEF	681		
AFATTAT	48	AFMGBIAS	117	CMCONTRL	832	CMMGVLNL	872	CMTHINGS	489	DFLTFWRT	468	GTCLNVTIM	604	GTLOGTRM	642	GTSETDEF	682		
AFATPLT	139	AFORTHOG	210	CMCSTATE	834	CMMSNCOM	873	CMTHINGS	490	DFLTFWRT	469	GTCLNVTIM	605	GTLOGTRM	643	GTSETDEF	683		
AFAVGDS	133	AFORTHOG	21	CMDFHED	835	CMNAMECM	874	CMTHINGS	491	DFLTFWRT	470	GTCLNVTIM	606	GTLOGTRM	644	GTSETDEF	684		
AFBADR	226	AFPRESDN	250	CMDFHED	836	CMNLCLER	875	CMTHINGS	492	DFLTFWRT	471	GTCLNVTIM	607	GTLOGTRM	645	GTSETDEF	685		
AFBCEFF	254	AFQCOEFF	256	CMDFHED	837	CMNLMBNA	876	CMTHINGS	493	DFLTFWRT	472	GTCLNVTIM	608	GTLOGTRM	646	GTSETDEF	686		
AFBIDSP	241	AFQUADLS	257	CMDFHED	838	CMNLMBNA	877	CMTHINGS	494	DFLTFWRT	473	GTCLNVTIM	609	GTLOGTRM	647	GTSETDEF	687		
AFBINSUM	18	AFREBILD	221	CMDFHED	839	CMNLMBNA	878	CMTHINGS	495	DFLTFWRT	474	GTCLNVTIM	610	GTLOGTRM	648	GTSETDEF	688		
AFBUTTER	255	AFRECUR1	260	CMDFHED	840	CMNLMBNA	879	CMTHINGS	496	DFLTFWRT	475	GTCLNVTIM	611	GTLOGTRM	649	GTSETDEF	689		

Figure 2-44. RPCOMPNM Program Output Report (1 of 2)

2.13 SUBJECTIVE EVALUATIONS FILE LISTING PROGRAM (DBRPTSEF)

2.13.1 INTRODUCTION

2.13.1.1 Function and Purpose

The Subjective Evaluations File Listing Program (DBRPTSEF) reads the Subjective Evaluations File (SEF) on the SEL data base and produces a formatted report of the contents of the SEF; the report is organized by the category of measure (MT, TS, DC, AP, MG, PF, CP, IN, EX, RA, PR, PP, RK, YP, YA, YE, WF, PS, CO, MS, or SW). The listing can be produced for any subset or all of these categories of measures or for any of the seven major categories of measures (SE, AB, DF, PC, DB, MD, and AD). See Section 2.13.3 for definitions of these categories and measures. This listing may be used to monitor the SEL data base or to examine the raw SEF data. The definitions of the categories of measures are given in Section 2.13.3, and a sample of the report produced by this program is given in Section 2.13.4.

2.13.1.2 System Resources

The DBRPTSEF program is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a disk, and a lineprinter. The terminal acts both as an input and an output message device when the user interacts with the program. Input to the program consists of user-entered options to the prompt and the Encoding Dictionary and SEF on the SEL data base. The SEL data base is permanently stored on disk and is on line to the PDP-11/70. The output listing is stored on disk by the DBRPTSEF program and may be directed to the lineprinter by the user after the program terminates.

2.13.1.3 Approximate Run Time

The normal execution time of the DBRPTSEF program depends on the size of the SEF. For the sample run given in

Section 2.13.4, approximately 48 seconds (wall-clock time) were required to execute the program.

2.13.1.4 Error Messages

The following error messages are produced by the DBRPTSEF program (where the Xs are replaced by the actual values):

```
ERROR IN OPENING XXXXXXXXXXXXXXXXXXXXXXXXXXXX
(FENCA) ERROR IN CONVERTING TO CHARACTER:  XXXXXXXX
***ERROR IN OPENING THE SUBJECTIVE EVALUATIONS FILE
***ERROR IN OPENING THE ENCODING DICTIONARY
***ERROR IN READING SEF DATA RECORD
***ERROR IN READING SEF FILE, KEY VALUE = XXX
```

2.13.1.5 Restrictions/Relation to Other Software

If another user is accessing the Encoding Dictionary or the SEF at the same time that the DBRPTSEF program is trying to access it, the DBRPTSEF program will inform the user with the file open error message and the program will terminate.

2.13.2 PROGRAM INVOCATION

The user executes the DBRPTSEF program by entering the following command on the user's terminal:

```
RUN [204,5]DBRPTSEF
```

2.13.3 PROGRAM OPERATION

After the user invokes the DBRPTSEF program, the program will obtain all project codes from the SEF and the corresponding project names, sorted alphabetically, from the Encoding Dictionary. The following help information will then be displayed on the user's terminal:

THE CATEGORY OF MEASURES TO BE REPORTED:

```
ALL;
SE(MT,TS,DC), AB(AP,MG,PF),    DF(CP,IN,EX),
PC(RA,PR,PP), DB(RK,YP,YA,YE), MD(WF,PS,CO),
AD(MS, SW);
```

MT, TS, DC, AP, MG, PF, CP, IN, EX, RA, PR, PP, RK,
YP, YA, YE, WF, PS, CO, MS, SW

The user will then be prompted for the category name to be reported and should respond with one of the above-mentioned options. If the user wants to obtain a listing of all measures, ALL should be entered. If the user desires a listing for one of the seven major categories of measures, one of the following abbreviations should be entered:

SE (Software Engineering--MT, TS, DC measures included)
AB (Development Team Ability--AP, MG, PF measures included)
DF (Difficulty of Project--CP, IN, EX measures included)
PC (Process and Product Characteristics--RA, PR, PP measures included)
DB (Development Team Background--RK, YP, YA, YE measures included)
MD (Models--WF, PS, CO measures included)
AD (Additional Detail--MS, SW measures included)

If the user wants a listing for only one measure, one of the following category abbreviations should be entered:

MT (Practices and Techniques)
TS (Tools)
DC (Documentation)
AP (Experience With Application)
MG (Effectiveness of Management)
PF (Performance of Team)
CP (Complexity of Problem)
IN (Internal Influences on Project)
EX (External Influences on Project)
RA (Resources Available)

PR (Software Product)
PP (Product/Process Performance)
RK (Team Rank)
YP (Years of Professional Experience)
YA (Years of Applicable Experience)
YE (Years of Environment Experience)
WF (Walston-Felix Model)
PS (PRICE S3 Model)
CO (COCOMO Model)
MS (Miscellaneous)
SW (Code Breakdown)

After the program reads the user-entered option, it will start to write the desired listing from the SEF. After processing one option, the program returns to the prompt for the category name to be reported. At this point, the user may enter another option or ^Z (control Z) to terminate the program. An output listing, SEFDAT.RPT, is generated after execution is completed. The user may print this listing by using the PRINT command; for example

```
PRINT SEFDAT.RPT
```

Further information on the categories of measures on the SEF is found in Reference 3.

2.13.4 SAMPLE OUTPUT

Figure 2-45 is a sample output listing of the SE major category that includes the MT, TS, and DC measures. The project name, project code, status flag, evaluator code, and measure values are listed for each project. Further information about these measures may be found in Reference 3.

SUBJECTIVE EVALUATIONS DATA (SEF.HDR)
PRACTICES AND TECHNIQUES (MT) -- PART 1

PROJECT	PROJ CODE	STAT FLAG	EVAL CODE	ORGANIZATION	DESIGN	MT01	MT02	MT03	MT04	MT05	MT06	MT07	MT08	MT09	MT10	MT11	MT12	MT13	MT14
AEM	2	1	2	2.5	0.0	1.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
DEA	36	1	2	2.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
DEB	37	1	2	3.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
DEDET	40	1	2	4.0	0.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
DEFULL	56	1	2	2.5	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
DESIM	38	1	2	5.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
FDCS	47	1	2	4.0	0.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
FOXPP	34	1	2	2.0	0.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
FOXPRO	35	1	2	5.0	0.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
GSDC	39	1	2	4.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
ISEEB	5	1	2	4.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
ISEEC	8	1	2	5.0	0.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
MAGASP	55	1	2	4.0	0.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
MAGCOP	53	1	2	5.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
MAGDOG	52	1	2	4.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
MAGINT	50	1	2	3.5	0.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
MAGIRC	54	1	2	4.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
MAGLOG	51	1	2	4.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
MAGNRT	49	1	2	5.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
MAGSAT	26	1	2	3.5	0.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
MAGTP	48	1	2	4.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
PAS	6	1	2	4.5	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
SEASAT	10	1	2	2.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
SHM	19	1	2	5.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
SHMFULL	46	1	2	5.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Figure 2-45. Subjective Evaluations File Report Program (DBRPTSEF) Output (1 of 4)

PROJECT	PROJ CODE	CODE	MT15	MT16	MT17	MT18	MT19	MT20	MT21	MT22	MT23	TEST	MT24	MT25	MT26	MT27	MT28	MT29	MT30	SUM MT81	SUM MT82	SUM MT83	TOTAL MT84
AEM	2	0.0	1.0	1.0	1.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	1.5	3.0	0.0	0.0	0.0	0.0	0.0	13.5	7.0	6.5	29.5
DEA	36	2.0	1.0	2.0	0.5	1.0	0.5	1.0	0.0	0.0	0.0	3.0	0.0	1.0	4.0	1.0	0.0	0.0	0.0	22.0	6.5	9.0	39.5
DEB	37	3.5	2.0	3.0	1.0	2.0	2.0	2.0	0.0	0.0	0.0	3.5	3.0	2.0	3.5	3.5	3.5	0.0	0.0	23.5	13.5	15.5	55.5
DEDET	40	2.5	3.0	3.0	0.0	0.5	1.5	1.0	0.0	0.0	0.0	4.0	2.5	0.5	2.5	1.0	0.0	0.0	0.0	22.0	11.0	10.5	47.5
DEFULL	56	2.5	1.5	2.5	0.5	1.5	1.0	0.0	0.0	0.0	0.0	5.0	4.5	5.0	0.0	0.0	0.0	0.0	0.0	30.5	25.0	14.5	75.0
DESIM	38	4.0	4.0	4.5	3.5	4.0	5.0	0.0	0.0	0.0	0.0	4.0	3.0	4.5	0.0	0.0	0.0	0.0	0.0	25.5	24.5	11.5	65.5
FDCS	47	3.5	4.0	4.5	3.0	5.0	4.0	3.0	0.0	0.0	0.0	2.0	1.0	4.5	0.0	0.0	0.0	0.0	0.0	18.5	17.5	7.5	45.5
FOXPP	34	1.0	4.0	4.5	1.0	4.0	3.0	0.0	0.0	0.0	0.0	4.0	3.0	4.5	0.0	0.0	0.0	0.0	0.0	29.5	27.5	11.5	73.5
FOXPRO	35	4.5	4.5	4.5	4.0	5.0	5.0	0.0	0.0	0.0	0.0	3.0	2.5	4.0	0.0	0.0	0.0	0.0	0.0	25.0	14.0	9.5	53.5
GSDC	39	3.0	4.0	2.0	0.0	1.0	4.0	0.0	0.0	0.0	0.0	0.0	0.5	1.0	0.0	0.0	0.0	0.0	0.0	15.0	7.0	1.5	27.5
ISEEB	5	0.0	1.0	2.0	0.0	1.0	3.0	0.0	0.0	0.0	0.0	5.0	4.5	4.0	0.0	0.0	0.0	0.0	0.0	25.5	25.0	13.5	69.0
ISEEC	8	4.5	3.0	4.5	3.0	5.0	5.0	0.0	0.0	0.0	0.0	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	22.5	21.0	8.5	56.0
MAGASP	55	4.0	4.0	3.5	1.0	4.0	4.5	0.0	0.0	0.0	0.0	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	14.0	8.5	45.5
MAGCP	53	0.0	2.0	3.5	0.0	4.0	4.5	0.0	0.0	0.0	0.0	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	8.5	9.5	40.0
MAGDDG	52	0.0	4.0	3.5	0.0	1.0	0.0	0.0	0.0	0.0	0.0	3.0	2.0	4.5	0.0	0.0	0.0	0.0	0.0	22.0	17.0	7.5	50.0
MAGINT	50	4.0	3.0	2.5	1.0	3.5	3.0	0.0	0.0	0.0	0.0	4.0	2.5	1.0	0.0	0.0	0.0	0.0	0.0	22.0	16.0	12.5	57.5
MAGIRC	54	4.5	3.0	3.5	0.0	1.0	4.0	0.0	0.0	0.0	0.0	4.0	3.5	5.0	0.0	0.0	0.0	0.0	0.0	25.0	21.0	11.5	62.5
MAGLOG	51	1.0	2.0	3.0	1.0	3.0	4.0	0.0	0.0	0.0	0.0	4.5	4.0	3.0	0.0	0.0	0.0	0.0	0.0	25.0	23.0	15.0	69.0
MAGNRT	49	4.0	4.0	4.5	0.0	4.0	4.5	0.0	0.0	0.0	0.0	4.5	3.0	1.5	0.0	0.0	0.0	0.0	0.0	23.0	20.0	9.0	50.5
MAGSAT	26	3.0	3.5	3.0	0.5	3.0	2.0	0.0	0.0	0.0	0.0	4.5	3.5	3.0	0.0	0.0	0.0	0.0	0.0	24.0	15.0	11.0	54.0
MAGTIP	48	3.0	4.0	4.0	0.0	1.0	3.0	0.0	0.0	0.0	0.0	4.5	4.5	5.0	0.0	0.0	0.0	0.0	0.0	23.0	23.5	14.5	65.5
PAS	6	5.0	4.0	3.0	3.0	4.0	4.5	0.0	0.0	0.0	0.0	5.0	3.0	2.5	0.0	0.0	0.0	0.0	0.0	16.0	7.5	8.5	34.0
SEASAT	10	0.0	1.0	3.5	0.0	1.0	2.0	0.0	0.0	0.0	0.0	3.0	2.5	4.0	0.0	0.0	0.0	0.0	0.0	26.5	24.0	13.5	69.0
SHH	19	4.5	4.0	3.5	3.0	5.0	4.0	0.0	0.0	0.0	0.0	5.0	4.5	4.0	0.0	0.0	0.0	0.0	0.0	27.0	23.0	12.5	67.5
SHHFULL	46	4.5	4.0	3.5	2.5	4.5	4.0	0.0	0.0	0.0	0.0	4.5	4.0	4.0	0.0	0.0	0.0	0.0	0.0	27.0	23.0	12.5	67.5

Figure 2-45. Subjective Evaluations File Report Program (DBRPTSEF) Output (2 of 4)

		SUBJECTIVE EVALUATIONS DATA (SEF HDR)																30-SEP-82 PAGE 1	
		TOOL5 (TS)																	
PROJECT	PROJ CODE	STAT FLAG	EVAL CODE	TS01	TS02	TS03	TS04	TS05	TS06	TS07	TS08	TS09	TS10	TS11	TS12	TS13	TS14	TS15	SUM TSB1
AEM	2	1	2	0.0	0.0	2.0	0.0	0.0	3.0	2.0	0.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	13.0
DEA	36	1	2	1.0	4.0	1.0	1.0	3.0	4.0	2.5	1.0	3.0	3.0	1.5	2.0	0.0	0.0	0.0	26.0
DEB	37	1	2	2.0	4.0	2.5	1.5	3.0	4.0	3.0	2.5	0.0	0.0	3.0	0.5	0.0	0.0	0.0	26.0
DEDET	40	1	2	0.0	4.0	1.5	1.0	3.0	5.0	1.5	1.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0	18.0
DEFULL	56	1	2	1.5	4.0	1.5	1.5	3.0	4.0	2.5	1.5	1.5	1.0	2.0	1.0	0.0	0.0	0.0	25.0
DESIM	38	1	2	5.0	2.0	5.0	0.0	5.0	5.0	4.0	4.0	1.0	5.0	5.0	0.0	0.0	0.0	0.0	41.0
FOCS	47	1	2	3.0	2.0	4.0	0.0	3.5	3.5	2.5	4.0	3.5	2.5	5.0	0.0	0.0	0.0	0.0	33.5
FDXPP	34	1	2	0.0	0.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	8.0
FDXPRO	35	1	2	5.0	3.0	5.0	0.0	5.0	5.0	4.0	5.0	5.0	3.0	5.0	0.0	0.0	0.0	0.0	45.0
GSOC	39	1	2	5.0	1.0	3.0	0.0	3.0	5.0	1.0	5.0	0.0	4.0	5.0	0.0	0.0	0.0	0.0	32.0
ISEEB	5	1	2	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1.0	0.0	4.0	1.0	0.0	0.0	0.0	0.0	9.0
ISEEC	8	1	2	5.0	3.0	5.0	0.0	4.0	4.0	5.0	5.0	2.0	5.0	4.0	0.0	0.0	0.0	0.0	42.0
MAGASP	55	1	2	3.0	2.0	3.0	0.0	4.0	5.0	3.0	2.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	27.0
MAGCP	53	1	2	3.0	2.0	2.0	0.0	0.0	3.0	4.0	1.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	20.0
MAGDOG	52	1	2	0.0	1.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0
MAGINT	50	1	2	3.0	2.0	3.0	0.0	3.0	4.0	3.0	2.5	0.0	1.0	2.0	0.0	0.0	0.0	0.0	32.5
MAGIRC	54	1	2	3.0	2.0	4.0	0.0	5.0	5.0	4.0	1.0	0.0	3.0	5.0	0.0	0.0	0.0	0.0	32.0
MAGLOG	49	1	2	0.0	2.0	3.0	0.0	2.0	5.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.5
MAGNRT	51	1	2	5.0	2.0	5.0	0.0	4.0	5.0	4.0	1.0	2.0	5.0	3.0	0.0	0.0	0.0	0.0	36.0
MAGSAT	26	1	2	2.0	2.0	3.0	0.0	3.0	5.0	3.0	1.0	0.5	2.0	1.5	0.0	0.0	0.0	0.0	23.0
MAGTGP	48	1	2	0.0	0.0	3.0	0.0	4.0	5.0	3.0	1.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	18.0
PAS	6	1	2	2.0	3.0	5.0	0.0	0.0	0.0	4.0	5.0	5.0	5.0	5.0	0.0	0.0	0.0	0.0	34.0
SEASAT	10	1	2	1.0	0.0	1.0	0.0	2.0	4.0	3.0	0.0	0.0	1.0	2.0	0.0	0.0	0.0	0.0	14.0
SMM	19	1	2	5.0	3.0	5.0	0.0	5.0	5.0	5.0	5.0	4.0	4.0	5.0	0.0	0.0	0.0	0.0	46.0
SMMFULL	46	1	2	5.0	3.0	5.0	0.0	5.0	5.0	5.0	5.0	4.0	4.0	5.0	0.0	0.0	0.0	0.0	46.0

Figure 2-45. Subjective Evaluations File Report Program (DBRPTSEF) Output (3 of 4)

SUBJECTIVE EVALUATIONS DATA (SEF.HDR)																				30-SEP-82
DOCUMENTATION (DC)																				PAGE 1
PROJ CODE	STAT FLAG	EVAL CODE	DC01	DC02	DC03	DC04	DC05	DC06	DC07	DC08	DC09	DC10	DC11	DC12	DC13	DC14	DC15	SUM DC81	TOTAL SE81	
2	1	2	1.0	2.0	0.0	1.0	3.0	1.0	1.0	2.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	17.0	57.3	
36	1	2	2.5	4.0	1.0	3.5	4.0	0.0	4.0	3.5	4.0	2.5	0.0	0.0	0.0	0.0	0.0	29.0	90.1	
DEA	37	1	5.0	4.0	2.0	4.0	5.0	0.0	4.0	5.0	5.0	4.0	0.0	0.0	0.0	0.0	0.0	38.0	115.1	
DEB	40	1	2.0	4.0	1.0	3.5	5.0	0.0	4.0	3.0	2.0	3.0	0.0	0.0	0.0	0.0	0.0	27.5	90.0	
DEDET	56	1	3.5	4.0	1.5	3.5	4.5	0.0	4.0	4.0	4.0	3.0	0.0	0.0	0.0	0.0	0.0	32.0	99.3	
DESFULL	38	1	2	4.0	5.0	2.0	5.0	4.0	0.0	5.0	5.0	4.0	0.0	0.0	0.0	0.0	0.0	39.0	148.1	
DESIM	38	1	2	4.0	5.0	2.0	5.0	4.0	0.0	5.0	5.0	4.0	0.0	0.0	0.0	0.0	0.0	33.0	126.4	
FOCS	47	1	2	2.0	4.0	4.0	4.0	0.0	1.0	5.0	4.0	1.0	0.0	0.0	0.0	0.0	0.0	17.0	69.1	
FOXPP	34	1	2	1.0	2.5	2.5	1.5	2.5	0.0	1.0	1.0	4.0	0.0	0.0	0.0	0.0	0.0	17.0	69.1	
FOXPRO	35	1	2	3.0	5.0	5.0	4.0	5.0	0.0	1.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	38.0	149.0	
GSOC	39	1	2	2.0	5.0	5.0	4.0	5.0	0.0	1.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	37.0	117.1	
ISEEB	5	1	2	1.0	2.0	1.0	1.0	1.0	0.0	1.0	3.0	4.0	0.0	0.0	0.0	0.0	0.0	18.0	53.0	
ISEEC	8	1	2	5.0	4.0	5.0	1.0	5.0	1.0	4.0	4.0	5.0	0.0	0.0	0.0	0.0	0.0	39.0	143.0	
MAGASP	55	1	2	1.0	1.0	0.0	2.5	4.0	0.0	2.5	4.0	5.0	0.0	0.0	0.0	0.0	0.0	24.0	102.5	
MAGGCP	53	1	2	1.0	3.0	0.0	0.5	1.0	0.0	3.5	4.0	5.0	0.0	0.0	0.0	0.0	0.0	27.0	89.1	
MAGDOG	52	1	2	1.0	1.0	0.0	0.5	1.0	0.0	1.0	4.0	5.0	0.0	0.0	0.0	0.0	0.0	17.5	62.5	
MAGINT	50	1	2	4.0	5.0	3.0	2.5	4.0	0.0	3.5	4.0	5.0	0.0	0.0	0.0	0.0	0.0	35.0	104.5	
MAGIRC	54	1	2	1.0	3.0	3.0	2.5	4.0	0.0	3.5	4.0	5.0	0.0	0.0	0.0	0.0	0.0	34.0	89.7	
MAGLOG	51	1	2	4.0	4.0	3.0	2.5	4.0	0.0	4.5	4.0	5.0	0.0	0.0	0.0	0.0	0.0	32.0	101.6	
MAGNRT	49	1	2	4.0	5.0	2.0	2.5	4.0	0.0	4.5	4.0	5.0	0.0	0.0	0.0	0.0	0.0	33.0	102.0	
MAGSAT	26	1	2	3.0	4.0	2.0	2.5	4.0	0.0	3.5	4.0	5.0	0.0	0.0	0.0	0.0	0.0	34.5	128.3	
MAGTIP	48	1	2	4.0	4.0	2.0	2.5	4.0	0.0	3.5	4.0	5.0	0.0	0.0	0.0	0.0	0.0	16.0	61.6	
PAS	6	1	2	5.0	4.0	3.0	1.0	4.0	0.0	4.0	4.0	5.0	0.0	0.0	0.0	0.0	0.0	45.0	152.3	
SEASAT	10	1	2	0.0	2.0	0.0	1.0	1.0	1.0	3.0	1.0	4.0	3.0	0.0	0.0	0.0	0.0	16.0	61.6	
SMM	19	1	2	5.0	5.0	5.0	5.0	5.0	0.0	5.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	45.0	152.3	
SMMFULL	46	1	2	5.0	5.0	5.0	4.0	5.0	0.0	4.5	5.0	5.0	0.0	0.0	0.0	0.0	0.0	43.5	149.3	

Figure 2-45. Subjective Evaluations File Report Program (DBRPTSEF) Output (4 of 4)

2.14 SUBJECTIVE EVALUATIONS DIRECTORY FILE LISTING PROCEDURE (DBRPTDIR)

2.14.1 INTRODUCTION

2.14.1.1 Function and Purpose

The Subjective Evaluations Directory File Listing Procedure (DBRPTDIR) lists the contents of the Subjective Evaluations Directory File by using DATATRIEVE. This program is useful for identifying the subjective evaluations measures for data that are contained in the SEF.

2.14.1.2 System Resources

The DBRPTDIR procedure is a DATATRIEVE command file that is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a disk, and a lineprinter. The terminal acts as an output message device. Input to the procedure consists of the Subjective Evaluations Directory File that is stored on disk and is on line to the PDP-11/70. The output listing is stored on disk by the DBRPTDIR procedure and may be directed to the lineprinter by the user after the program terminates.

2.14.1.3 Approximate Run Time

The normal execution time of the DBRPTDIR procedure depends on the size of the Subjective Evaluations Directory File. Approximately 107 seconds (wall-clock time) are required to run the procedure on the current size of this file (621 records).

2.14.2 PROCEDURE INVOCATION

The user executes the DBRPTDIR procedure by entering the following command on the user's terminal:

```
DTR @[204,4]DBRPTDIR.DTR
```


2.14.3 PROCEDURE OPERATION

After the user invokes the DBRPTDIR procedure, DATATRIEVE will echo each command on the file [204,4]DBRPTDIR.DTR to the user's terminal. After execution is completed, a message, YOUR REPORT IS ON FILE 'SEFDIR.RPT'. PLEASE PRINT THIS FILE, will be displayed on the user's terminal. The user may then print this listing by using the PRINT command; for example

```
PRINT SEFDIR.RPT
```

2.14.4 SAMPLE OUTPUT

Figure 2-46 is a sample output listing of the current Subjective Evaluations Directory File. Each record contains information concerning a different subjective evaluations measure. The code, name, minimum and maximum values, data record sequence number, byte location in the given data record, and description of each measure are listed. Further information about these measures may be found in Reference 3.

SUBJECTIVE EVALUATIONS DIRECTORY INFORMATION (DIR HDR)

CODE	MEASURE NAME	MIN VALUE	MAX VALUE	REC SEQ	BYTE LOC	DESCRIPTION
AB81	PROBABLY	0006	1800	2	282	SUM AP84, MGB1, MGB2, PF01*600/300
AB82	PROBABLY	0033	1800	2	286	SUM AP84, MGB1, MGB2, PF02*600/309
AB83	PROBABLY	0046	1800	2	290	SUM AP84, MGB1, MGB2, PG03*600/314
AB84	PROBABLY	0006	1800	2	294	SUM AP84, MGB3*2, PF11*600/300
AB85	PROBABLY	0033	1800	2	298	SUM AP84, MGB3*2, PF12*600/309
AB86	PROBABLY	0046	1800	2	302	SUM AP84, MGB3*2, PF12*600/314
AB87	PROBABLY	0006	1800	2	306	SUM AP84, MGB4, MGB5, PF21*600/300
AB88	PROBABLY	0033	1800	2	310	SUM AP84, MGB4, MGB5, PF22*600/309
AB89	PROBABLY	0046	1800	2	314	SUM AP84, MGB4, MGB5, PF23*600/314
AB90	PROBABLY	0006	1800	2	318	SUM AP84, MGB3*600/1750, PF31*600/300
AB91	PROBABLY	0033	1800	2	322	SUM AP84, MGB3*600/1750, PF32*600/309
AB92	PROBABLY	0046	1800	2	326	SUM AP84, MGB3*600/1750, PF33*600/314
AP01	EXPERT1	00	50	2	6	EXPERT 1
AP02	EXPERT2	00	50	2	8	EXPERT 2
AP03	EXPERT3	00	50	2	10	EXPERT 3
AP04	EXPERT4	00	50	2	12	EXPERT 4
AP05	EXPERT5	00	50	2	14	EXPERT 5
AP06	PROJMG	00	50	2	16	PROJECT MANAGER
AP07	PROJLEAD	00	50	2	18	PROJECT LEADER
AP08	PROJGRM	00	50	2	20	PROGRAMMERS
AP09	ANALYSTS	00	50	2	22	ANALYSTS
AP10	REQSPART	00	50	2	24	PARTICIPATION IN REQUIREMENTS DEFINITION
AP11	DSGNPART	00	50	2	26	PARTICIPATION IN DESIGN
AP12	TINTERAC	00	50	2	28	TEAM INTERACTIONS BEFORE PROJECT
AP81	EXPERTS	00	250	2	36	SUM APO1 THROUGH APO5
AP82	TEAMEXP	000	150	2	39	SUM APO6 THROUGH APO8
AP83	TEAMFAM	000	150	2	42	SUM APO9 THROUGH APO12
AP84	TOTAL	000	600	2	45	SUM APO1 THROUGH APO12
CP01	CONMEMRY	00	50	3	6	CONSTRAINT - MEMORY
CP02	CONTIMNG	00	50	3	8	CONSTRAINT - TIMING
CP03	PAMTDATA	00	50	3	10	PROCESSING - AMOUNT OF DATA IN STEP
CP04	PBSIZE	00	50	3	12	PROCESSING - DATA BASE SIZE
CP05	PROOFDS	00	50	3	14	PROCESSING - NUMBER OF DATA SETS
CP06	COMPRGS	00	50	3	16	COMMUNICATIONS - NUMBER OF PROGRAMS
CP07	COMSUBS	00	50	3	18	COMMUNICATIONS - NUMBER OF SUBSYSTEMS
CP08	COMOSETS	00	50	3	20	COMMUNICATIONS - NUMBER OF DATA SETS
CP09	OLDCODE	00	50	3	22	USE OF OLD CODE
CP10	ALGORTHM	00	50	3	24	NEW ALGORITHMS
CP11	SCHEDULE	00	50	3	26	SCHEDULE
CP81	CNSTRAIN	000	100	3	36	SUM CPO1 AND CPO2
CP82	PROCESNG	000	150	3	39	SUM CPO3 THROUGH CPO5
CP83	COMUNICT	000	150	3	42	SUM CPO6 THROUGH CPO8
CP84	EXTRAS	000	150	3	45	SUM CPO9 THROUGH CP11
CP85	TOTAL	000	550	3	48	SUM CPO1 THROUGH CP11
DC01	SELFURMS	00	50	1	116	SEL FORMS
DC02	DSGNDCC	00	50	1	118	DESIGN DOCUMENT
DC03	DSGNDCSN	00	50	1	120	DESIGN DECISIONS
DC04	SEMIOA	00	50	1	122	SEMIFORMAL QUALITY ASSURANCE

Figure 2-46. Subjective Evaluations Directory File Report Program (DBRPTDIR)
Output (1 of 13)

SUBJECTIVE EVALUATIONS DIRECTORY INFORMATION (DIR HDR)

CODE	MEASURE NAME	MIN VALUE	MAX VALUE	REC SEQ	BYTE LOC	DESCRIPTION
DC05	ACTNOTBK	00	50	1	124	ACTIVITY NOTEBOOKS
DC06	UNITDEVF	00	50	1	126	UNIT DEVELOPMENT FOLDERS
DC07	TESTPLAN	00	50	1	128	TEST PLANS
DC08	USERSYS	00	50	1	130	USER'S GUIDE/SYSTEM DESCRIPTION
DC09	FTUSERS	00	50	1	132	FORMAL TREATMENT OF USER'S/SYSTEM
DC10	WEEKKNTH	00	50	1	134	WEEKLY/MONTHLY PROGRESS REPORTS
DC11	TOTAL	000	500	1	146	SUM DC01 THROUGH DC10
DC81	DIFCLTY	0000	1950	3	158	SUM CP85*650/550, IN84, EX87*650/900
EX01	REQCHANG	00	50	3	97	REQUIREMENTS - CHANGES
EX02	REQCMPLT	00	50	3	99	REQUIREMENTS - COMPLETENESS
EX03	SANALYS	00	50	3	101	SUPPORT - ANALYSIS
EX04	SMISPROJ	00	50	3	103	SUPPORT - MISSION PROJECT
EX05	SDEVGR	00	50	3	105	SUPPORT - DEVELOPMENT MANAGER
EX06	SDEVLEAD	00	50	3	107	SUPPORT - DEVELOPMENT LEADER
EX07	ODNOSUBS	00	50	3	109	OUTSIDE DEVELOPMENT - NUMBER OF SUBSYSTEMS
EX08	ODFRONTS	00	50	3	111	OUTSIDE DEVELOPMENT - FRONTEND PROCESSORS
EX09	ODONTIME	00	50	3	113	OUTSIDE DEVELOPMENT - ONTIME DELIVERY
EX10	SIMAVAIL	00	50	3	115	SIMULATOR - AVAILABILITY
EX11	SIMRECT	00	50	3	117	SIMULATOR - CORRECTNESS
EX12	SIMDATA	00	50	3	119	SIMULATOR - DATA SUPPORT
EX13	ALSTART	00	50	3	121	ANALYSIS LEADER - AT START
EX14	ALTURNOV	00	50	3	123	ANALYSIS LEADER - TURNOVER
EX15	ALEND	00	50	3	125	ANALYSIS LEADER - AT END
EX16	NODFLEAD	00	50	3	127	NUMBER OF ANALYSIS LEADERS/MANAGERS
EX17	SWSUPORT	00	50	3	129	SUPPORT SOFTWARE
EX18	HMSUPORT	00	50	3	131	SUPPORT HARDWARE
EX81	REQS	000	100	3	137	SUM EX01 AND EX02
EX82	SUPPORT	000	200	3	140	SUM EX03 THROUGH EX06
EX83	OUTSIDEV	000	150	3	143	SUM EX07 THROUGH EX09
EX84	SIMULATE	000	150	3	146	SUM EX10 THROUGH EX12
EX85	LEADERS	000	200	3	149	SUM EX13 THROUGH EX16
EX86	SWHSUP	000	100	3	152	SUM EX17 AND EX18
EX87	TOTAL	000	900	3	155	SUM EX01 THROUGH EX18
INO1	OTWEEKS	00	50	3	53	OVERTIME - WEEKENDS
INO2	OTNITES	00	50	3	55	OVERTIME - NIGHTS
INO3	OTEARLY	00	50	3	57	OVERTIME - EARLY PHASES
INO4	SFDESIGN	00	50	3	59	STAFFING PROBLEMS - DESIGN
INO5	SPTURNOV	00	50	3	61	STAFFING PROBLEMS - TURNOVER
INO6	SFDEPART	00	50	3	63	STAFFING PROBLEMS - EARLY DEPARTURE (ACCEPTANCE TEST)
INO7	SPNEEDS	00	50	3	65	STAFFING PROBLEMS - EXTRA HELP NEEDED
INO8	PMSTART	00	50	3	67	PROJECT MANAGER - AT START
INO9	PMTURNNOV	00	50	3	69	PROJECT MANAGER - TURNOVER
INO10	PMEND	00	50	3	71	PROJECT MANAGER - AT END
INO11	ATTITUDE	00	50	3	73	TEAM ATTITUDE
INO12	PLTURNNOV	00	50	3	75	PROJECT LEADER - TURNOVER
INO13	NODFLEAD	00	50	3	77	NUMBER OF PROJECT MANAGERS/LEADERS
IN81	OVERTIME	000	150	3	83	SUM INO1 THROUGH INO3
IN82	STAFPROB	000	200	3	86	SUM INO4 THROUGH INO7

Figure 2-46. Subjective Evaluations Directory File Report Program (DBRPTDIR)
Output (2 of 13)

SUBJECTIVE EVALUATIONS DIRECTORY INFORMATION (DIR HDR)

CODE	MEASURE NAME	MIN VALUE	MAX VALUE	REC SEQ	BYTE LDC	DESCRIPTION
INB3	LEADERS	000	250	3	89	SUM IN08 THROUGH IN10 AND IN12, IN13
INB4	TOTAL	000	650	3	92	SUM IN01 THROUGH IN13
MG01	PDPJMR	00	50	2	50	PRELIMINARY DESIGN - PROJECT MANAGER
MG02	PDPJLEAD	00	50	2	52	PRELIMINARY DESIGN - PROJECT LEADER
MG03	PDANMR	00	50	2	54	PRELIMINARY DESIGN - ANALYSIS MANAGER
MG04	PDANLEAD	00	50	2	56	PRELIMINARY DESIGN - ANALYSIS LEADER
MG05	PDDVMR	00	50	2	58	PRELIMINARY DESIGN - DEVELOPMENT MANAGER
MG06	PDDVLEAD	00	50	2	60	PRELIMINARY DESIGN - DEVELOPMENT LEADER
MG07	DDPJMR	00	50	2	62	DETAILED DESIGN - PROJECT MANAGER
MG08	DDPJLEAD	00	50	2	64	DETAILED DESIGN - PROJECT LEADER
MG09	DDANMR	00	50	2	66	DETAILED DESIGN - ANALYSIS MANAGER
MG10	DDANLEAD	00	50	2	68	DETAILED DESIGN - ANALYSIS LEADER
MG11	DDDVMR	00	50	2	70	DETAILED DESIGN - DEVELOPMENT MANAGER
MG12	DDDVLEAD	00	50	2	72	DETAILED DESIGN - DEVELOPMENT LEADER
MG13	IMPJMR	00	50	2	74	IMPLEMENTATION - PROJECT MANAGER
MG14	IMPJLEAD	00	50	2	76	IMPLEMENTATION - PROJECT LEADER
MG15	IMANMR	00	50	2	78	IMPLEMENTATION - ANALYSIS MANAGER
MG16	IMANLEAD	00	50	2	80	IMPLEMENTATION - ANALYSIS LEADER
MG17	IMDVMR	00	50	2	82	IMPLEMENTATION - DEVELOPMENT MANAGER
MG18	IMDVLEAD	00	50	2	84	IMPLEMENTATION - DEVELOPMENT LEADER
MG19	STPJMR	00	50	2	86	SYSTEM TESTING - PROJECT MANAGER
MG20	STPJLEAD	00	50	2	88	SYSTEM TESTING - PROJECT LEADER
MG21	STANMR	00	50	2	90	SYSTEM TESTING - ANALYSIS MANAGER
MG22	STANLEAD	00	50	2	92	SYSTEM TESTING - ANALYSIS LEADER
MG23	STDVMR	00	50	2	94	SYSTEM TESTING - DEVELOPMENT MANAGER
MG24	STDVLEAD	00	50	2	96	SYSTEM TESTING - DEVELOPMENT LEADER
MG25	ATPJMR	00	50	2	98	ACCEPTANCE TESTING - PROJECT MANAGER
MG26	ATPJLEAD	00	50	2	100	ACCEPTANCE TESTING - PROJECT LEADER
MG27	ATANMR	00	50	2	102	ACCEPTANCE TESTING - ANALYSIS MANAGER
MG28	ATANLEAD	00	50	2	104	ACCEPTANCE TESTING - ANALYSIS LEADER
MG29	ATDVMR	00	50	2	106	ACCEPTANCE TESTING - DEVELOPMENT MANAGER
MG30	ATDVLEAD	00	50	2	108	ACCEPTANCE TESTING - DEVELOPMENT LEADER
MG31	SBPJMR	00	50	2	110	STABILITY - PROJECT MANAGER
MG32	SBPJLEAD	00	50	2	112	STABILITY - PROJECT LEADER
MG33	SBANMR	00	50	2	114	STABILITY - ANALYSIS MANAGER
MG34	SBANLEAD	00	50	2	116	STABILITY - ANALYSIS LEADER
MG35	SBOTHR	00	50	2	118	STABILITY - OTHER CHANGES
MG81	PRELMD	000	300	2	120	SUM MG01 THROUGH MG06
MG82	DETAILD	000	300	2	123	SUM MG07 THROUGH MG12
MG83	IMPLEMENT	000	300	2	126	SUM MG13 THROUGH MG18
MG84	SYSTEM	000	300	2	129	SUM MG19 THROUGH MG24
MG85	ACCEPT	000	300	2	132	SUM MG25 THROUGH MG30
MG86	STABILITY	000	300	2	135	SUM MG31 THROUGH MG35
MG87	PROJMR	000	250	2	138	SUM MG01, MG07, MG13, MG19, MG25
MG88	PROJLEAD	000	250	2	141	SUM MG02, MG08, MG14, MG20, MG26
MG89	ANLYSMR	000	250	2	144	SUM MG03, MG09, MG15, MG21, MG27
MG90	ANLYSLED	000	250	2	147	SUM MG04, MG10, MG16, MG22, MG28
MG91	DEVNMR	000	250	2	150	SUM MG05, MG11, MG18, MG23, MG29

Figure 2-46. Subjective Evaluations Directory File Report Program (DBRPTDIR)
Output (3 of 13)

SUBJECTIVE EVALUATIONS DIRECTORY INFORMATION (DIR HDR)

CODE	MEASURE NAME	MIN VALUE	MAX VALUE	REC SEQ	BYTE LOC	DESCRIPTION
MG92	DEVLEAD	000	250	2	153	SUM MG06, MG12, MG18, MG24, MG30
MG93	TOTAL	0000	1750	2	156	SUM MG01 THROUGH MG35
MS01	PRNPROGS	01	12	7	6	PRODUCT - NUMBER OF PROGRAMS
MS02	PRNSUBS	01	36	7	8	PRODUCT - NUMBER OF SUBSYSTEMS
MS03	PRNSIN	00	12	7	10	PRODUCT - DATA SETS: INPUT
MS04	PRNSIO	00	24	7	12	PRODUCT - DATA SETS: INPUT/OUTPUT
MS05	PRNSOUT	00	12	7	14	PRODUCT - DATA SETS: OUTPUT
MS06	PRNSTOT	00	48	7	16	PRODUCT - DATA SETS: TOTAL
MS07	PRBIN	0000	2000	7	18	PRODUCT - DATA BASE: INPUT
MS08	PROBIO	0000	2000	7	22	PRODUCT - DATA BASE: INPUT/OUTPUT
MS09	PROBOUT	0000	2000	7	26	PRODUCT - DATA BASE: OUTPUT
MS10	PRBTOT	0000	2000	7	30	PRODUCT - DATA BASE: TOTAL
MS11	CPNPROGS	01	12	7	34	PROCESSING - NUMBER OF PROGRAMS
MS12	CPSUBS	01	36	7	36	PROCESSING - NUMBER OF SUBSYSTEMS
MS13	CPNSIN	00	12	7	38	PROCESSING - DATA SETS: INPUT
MS14	CPNSIO	00	24	7	40	PROCESSING - DATA SETS: INPUT/OUTPUT
MS15	CPNSOUT	00	12	7	42	PROCESSING - DATA SETS: OUTPUT
MS16	CPNSTOT	00	48	7	44	PROCESSING - DATA SETS: TOTAL
MS17	CPBIN	0000	2000	7	46	PROCESSING - DATA BASE: INPUT
MS18	CPBIO	0000	2000	7	50	PROCESSING - DATA BASE: INPUT/OUTPUT
MS19	CPBOUT	0000	2000	7	54	PROCESSING - DATA BASE: OUTPUT
MS20	CPBTOT	0000	2000	7	58	PROCESSING - DATA BASE: TOTAL
MS21	PAGDESIGN	0000	2400	7	62	DOCUMENTATION - PAGES OF DESIGN DOCUMENT
MS22	PAGPLAN	0000	1200	7	66	DOCUMENTATION - PAGES OF TEST PLAN
MS23	PAGUSERS	0000	4800	7	70	DOCUMENTATION - PAGES OF USER'S/SYSTEM
MS24	PAGPROLOG	0000	4800	7	74	DOCUMENTATION - PAGES OF PROLOGS
MS25	PAGTOTAL	0000	13200	7	78	DOCUMENTATION - TOTAL PAGES
MS26	AVGSP	000	169	7	83	AVERAGE STAFF - PROGRAMMERS
MS27	AVGSPM	000	227	7	86	AVERAGE STAFF - PROGRAMMERS AND MANAGERS
MS28	AVGSPMO	000	267	7	89	AVERAGE STAFF - ALL PERSONNEL
MT01	ORGCHIEF	00	50	1	6	ORGANIZATION - CHIEF PROGRAMMER
MT03	DWALKTHR	00	50	1	10	DESIGN - WALKTHROUGHS
MT04	DFDRREV	00	50	1	12	DESIGN - FORMAL REVIEWS
MT05	DFDRISMS	00	50	1	14	DESIGN - FORMALISMS
MT06	DFRECHAR	00	50	1	16	DESIGN - TREE CHARTS
MT07	DRPL	00	50	1	18	DESIGN - PROGRAM DESIGN LANGUAGE (PDL)
MT08	DHIPO	00	50	1	20	DESIGN - HIERARCHICAL INPUT PROCESSING OUTPUT (HIPO)
MT09	DTOPDOWN	00	50	1	22	DESIGN - TOP-DOWN
MT10	DLENHANC	00	50	1	24	DESIGN - ITERATIVE ENHANCEMENT
MT15	CSTUBS	00	50	1	34	CODE - STUBS
MT16	CTOPDOWN	00	50	1	36	CODE - TOP-DOWN
MT17	CSTRUCT	00	50	1	38	CODE - STRUCTURED
MT18	CHALKTHR	00	50	1	40	CODE - WALKTHROUGHS
MT19	CREADING	00	50	1	42	CODE - READING
MT20	CCONF IG	00	50	1	44	CODE - CONFIGURATION CONTROL
MT24	TFDRISMS	00	50	1	52	TEST - FORMALISM
MT25	TFQLTHRU	00	50	1	54	TEST - FOLLOW-THROUGH
MT26	TBATCH	00	50	1	56	TEST - BATCH

Figure 2-46. Subjective Evaluations Directory File Report Program (DBRPTDIR)
Output (4 of 13)

SUBJECTIVE EVALUATIONS DIRECTORY INFORMATION (DIR.HDR)

CODE	MEASURE NAME	MIN VALUE	MAX VALUE	REC SEQ	BYTE LOC	DESCRIPTION
M127	TUNVPRES	00	50	1	58	TEST - V&V PRESENCE
M128	TUNVUSE	00	50	1	60	TEST - V&V USE
M181	DESIGN	000	400	1	66	SUM MT03 THROUGH MT10
M182	CODE	000	300	1	69	SUM MT15 THROUGH MT20
M183	TEST	000	250	1	72	SUM MT24 THROUGH MT28
M184	TOTAL	0000	1000	1	75	SUM MT81 THROUGH MT83 AND MT01
PF01	DPROG	003	300	2	162	DESIGN - PROGRAMMERS
PF02	DTSPROJ	017	309	2	165	DESIGN - TECHNICAL STAFF: PROGRAMMERS, PROJECT MANAGERS
PF03	DTSANALY	024	314	2	168	DESIGN - TECHNICAL STAFF: PROGRAMMERS, PROJECT MANAGERS, PROJECT
PF04	DTSEVEL	024	314	2	171	DESIGN - TECHNICAL STAFF: PROGRAMMERS, DEVELOPMENT
PF05	DMPROJ	074	346	2	174	DESIGN - DEVELOPMENT MANAGEMENT: PROJECT
PF06	DMANALY	074	346	2	177	DESIGN - DEVELOPMENT MANAGEMENT: PROJECT, ANALYSTS
PF07	DMOVEL	074	346	2	180	DESIGN - DEVELOPMENT MANAGEMENT: DEVELOPMENT
PF08	DMANALY	074	346	2	183	DESIGN - INTERFACE MANAGEMENT: ANALYSIS
PF09	DMOVEL	074	346	2	186	DESIGN - INTERFACE MANAGEMENT: DEVELOPMENT
PF10	IPROG	003	300	2	192	IMPLEMENTATION - PROGRAMMERS
PF11	ITSPROJ	017	309	2	195	IMPLEMENTATION - TECHNICAL STAFF: PROGRAMMERS, PROJECT
PF12	ITSANALY	024	314	2	198	IMPLEMENTATION - TECHNICAL STAFF: PROGRAMMERS, PROJECT
PF13	ITSDEVEL	024	314	2	201	IMPLEMENTATION - TECHNICAL STAFF: PROGRAMMERS, DEVELOPMENT
PF14	IMPROJ	074	346	2	204	IMPLEMENTATION - DEVELOPMENT MANAGEMENT: PROJECT
PF15	IDMANALY	074	346	2	207	IMPLEMENTATION - DEVELOPMENT MANAGEMENT: PROJECT, ANALYSTS
PF16	IDMOVEL	074	346	2	210	IMPLEMENTATION - DEVELOPMENT MANAGEMENT: DEVELOPMENT
PF17	IDMANALY	074	346	2	213	IMPLEMENTATION - INTERFACE MANAGEMENT: ANALYSIS
PF18	IDMOVEL	074	346	2	216	IMPLEMENTATION - INTERFACE MANAGEMENT: DEVELOPMENT
PF19	TPROG	003	300	2	222	TEST - PROGRAMMERS
PF20	TSANALY	017	309	2	225	TEST - TECHNICAL STAFF: PROGRAMMERS, PROJECT MANAGERS
PF21	TSDEVEL	024	314	2	228	TEST - TECHNICAL STAFF: PROGRAMMERS, PROJECT
PF22	TSANALY	024	314	2	231	TEST - TECHNICAL STAFF: PROGRAMMERS, DEVELOPMENT
PF23	TSDEVEL	024	314	2	234	TEST - DEVELOPMENT MANAGEMENT: PROJECT
PF24	DMPROJ	074	346	2	237	TEST - DEVELOPMENT MANAGEMENT: PROJECT, ANALYSIS
PF25	IDMANALY	074	346	2	240	TEST - DEVELOPMENT MANAGEMENT: DEVELOPMENT
PF26	IDMOVEL	074	346	2	243	TEST - DEVELOPMENT MANAGEMENT: ANALYSIS
PF27	IDMANALY	074	346	2	246	TEST - INTERFACE MANAGEMENT: DEVELOPMENT
PF28	IDMOVEL	074	346	2	249	TEST - INTERFACE MANAGEMENT: DEVELOPMENT
PF29	TPROG	003	300	2	252	OVERALL - PROGRAMMERS
PF30	TSANALY	017	309	2	255	OVERALL - TECHNICAL STAFF: PROGRAMMERS, PROJECT
PF31	TSDEVEL	024	314	2	258	OVERALL - TECHNICAL STAFF: PROGRAMMERS, PROJECT
PF32	TSANALY	024	314	2	261	OVERALL - TECHNICAL STAFF: PROGRAMMERS, DEVELOPMENT
PF33	TSDEVEL	024	314	2	264	OVERALL - DEVELOPMENT MANAGEMENT: PROJECT
PF34	DMPROJ	074	346	2	267	OVERALL - DEVELOPMENT MANAGEMENT: PROJECT, ANALYSIS
PF35	IDMANALY	074	346	2	270	OVERALL - DEVELOPMENT MANAGEMENT: DEVELOPMENT
PF36	IDMOVEL	074	346	2	273	OVERALL - INTERFACE MANAGEMENT: ANALYSIS
PF37	IDMANALY	074	346	2	276	OVERALL - INTERFACE MANAGEMENT: DEVELOPMENT
PF38	IDMOVEL	074	346	2	279	PRODUCT - RELIABILITY
PF39	RELIABLE	00	50	4	117	PRODUCT - PERFORMANCE
PF40	PERFORMC	00	50	4	119	PRODUCT - OPERATIONAL CONSIDERATIONS
PF41	OPCONSID	00	50	4	121	PRODUCT - EASE OF TESTING
PF42	ESTEST	00	50	4	123	PROCESS - VISIBILITY
PF43	VISIBILT	00	50	4	129	PROCESS - PLANNING AND FOLLOW THROUGH
PF44	PLANFOLD	00	50	4	131	

Figure 2-46. Subjective Evaluations Directory File Report Program (DBRPTDIR) Output (5 of 13)

SUBJECTIVE EVALUATIONS DIRECTORY INFORMATION (DIR.HDR)

CODE	MEASURE NAME	MIN VALUE	MAX VALUE	REC SEQ	BYTE LOC	DESCRIPTION
PP09	STABLSCH	00	50	4	133	PROCESS - STABLE SCHEDULE
PP10	SUPERTRB	00	50	4	135	PROCESS - STABLE WITH PERTURBATIONS
PP11	TIMLYREC	00	50	4	137	PROCESS - TIMELINESS OF RECORDS
PPB1	PRODUCT	000	200	4	147	SUM PRO1 THROUGH PP04
PPB2	PROCESS	000	250	4	150	SUM PP07 THROUGH PP11
PPB3	PRDDPROS	000	450	4	153	SUM PPB1 AND PPB2
PRO1	COST	00	50	4	63	COST OF PROJECT
PRO2	TIMELY	00	50	4	65	TIMELINESS OF COMPLETION
PRO3	CONFIDNC	00	50	4	67	CONFIDENCE IN PRODUCT
PRO4	SIZNEWSW	00	50	4	69	SIZE - NEW S/W
PRO5	SIZEXTSW	00	50	4	71	SIZE - EXTENSIVELY MODIFIED S/W
PRO6	SIZSLTSW	00	50	4	73	SIZE - SLIGHTLY MODIFIED S/W
PRO7	SIZOLDSW	00	50	4	75	SIZE - OLD S/W
PRO8	READABLE	00	50	4	77	READABLE
PRO9	RELIEDOC	00	50	4	79	RELIABLE DOCUMENTATION
PR10	CMPLDESG	00	50	4	81	COMPLETENESS - DESIGN
PR11	CMPLCODE	00	50	4	83	COMPLETENESS - CODE
PR12	CMPLTEST	00	50	4	85	COMPLETENESS - TESTING
PR13	MREQPROS	00	50	4	87	MEET REQUIREMENTS - PROCESSING
PR14	MREQNEM	00	50	4	89	MEET REQUIREMENTS - MEMORY
PRB1	SIZESW	000	200	4	103	SUM PRO4 THROUGH PRO7
PRB2	COMPLETE	000	150	4	106	SUM PR10 THROUGH PR12
PRB3	MEETREQS	000	100	4	109	SUM PR13 AND PR14
PRB4	PRODUCT	000	700	4	112	SUM PRO1 THROUGH PR14
PS01	DESGPHAS	200	500	6	258	PERCENTAGE OF SCHEDULE DESIGN PHASE (FROM START)
PS02	DESGACT	200	800	6	261	PERCENTAGE OF SCHEDULE DESIGN ACTIVITY (FROM START)
PS03	CODEPHAS	150	500	6	264	PERCENTAGE OF SCHEDULE CODING PHASE (DESIGN)
PS04	CODEACT	150	600	6	267	PERCENTAGE OF SCHEDULE CODING ACTIVITY (DESIGN)
PS05	TESTPHAS	100	500	6	270	PERCENTAGE OF SCHEDULE TEST PHASE (CODING)
PS06	TESTACT	100	800	6	273	PERCENTAGE OF SCHEDULE TEST ACTIVITY (DOCUMENTATION)
PS07	SODCPHAS	050	300	6	276	PERCENTAGE OF SCHEDULE SYSTEM DOCUMENTATION PHASE
PS08	SODCACT	250	600	6	279	PERCENTAGE OF SCHEDULE DOCUMENTATION ACTIVITY
PS09	SCH67	0239	1552	6	282	RATIO OF ACTUAL SCHEDULE TO 67-WEEK SCHEDULE
PS10	CMPLXTOT	060	240	6	286	COMPLEXITY FACTOR - TOTAL
PS11	CMPLXPERS	080	120	6	289	COMPLEXITY FACTOR - PERSONNEL ONLY
PS12	CMPLXPRED	080	120	6	292	COMPLEXITY FACTOR - PRODUCT ONLY
PS13	CMPLXETR	100	200	6	295	COMPLEXITY FACTOR - EXTERNAL EFFECTS ONLY
PS14	NEWDESGN	000	999	6	298	NEW DESIGN - PERCENTAGE OF CODE IN BRAND NEW COMPONENTS
PS15	NEWCODE	000	999	6	301	NEW CODE - PERCENTAGE OF CODE IN NEW AND EXTENSIVELY
PS16	NEWTST	000	999	6	304	NEW TEST - PERCENTAGE OF CODE IN NEW OR MODIFIED
PS17	APPLICATN	086	999	6	307	APPLICATION - INSTRUCTION MIX
PS18	RESOURCE	100	400	6	310	RESOURCE - SKILL MIX, EXPERIENCE, ETC. FOR COST
PS19	UTILITY	065	100	6	313	UTILITY - FRACTION OF STORAGE AND TIMING CAPACITY
PS20	PLATFORM	060	250	6	316	PLATFORM - STRICTNESS OF STANDARDS, E.G., MIL - SPEC
PS81	CMPLXITY	320	680	6	319	SUM PS10 THROUGH PS13
RA01	PFORTRAN	00	50	4	6	DEVELOPMENT PROCESS - FORMAL TRAINING
RA02	PINFTRAN	00	50	4	8	DEVELOPMENT PROCESS - INFORMAL TRAINING
RA03	PDOCUMEN	00	50	4	10	DEVELOPMENT PROCESS - DOCUMENTATION

Figure 2-46. Subjective Evaluations Directory File Report Program (DBRPTDIR)
Output (6 of 13)

SUBJECTIVE EVALUATIONS DIRECTORY INFORMATION (DIR.HDR)

CODE	MEASURE NAME	MIN VALUE	MAX VALUE	REC SEQ	BYTE LOC	DESCRIPTION
RA04	SSINSTRC	00	50	4	12	SUPPORT SOFTWARE - INSTRUCTION
RA05	SSMAINT	00	50	4	14	SUPPORT SOFTWARE - MAINTENANCE
RA06	SSSIMLAT	00	50	4	16	SUPPORT SOFTWARE - SIMULATOR
RA07	CS75	00	50	4	18	COMPUTER SUPPORT - MODEL 75
RA08	CS95	00	50	4	20	COMPUTER SUPPORT - MODEL 95
RA09	CSOTHERM	00	50	4	22	COMPUTER SUPPORT - OTHER MODEL
RA10	CSRJP	00	50	4	24	COMPUTER SUPPORT - RJP
RA11	CST50	00	50	4	26	COMPUTER SUPPORT - T50
RA12	CSSOPS	00	50	4	28	COMPUTER SUPPORT - OPS
RA13	CSSPACE	00	50	4	30	COMPUTER SUPPORT - SPACE
RA14	CSGRPHXD	00	50	4	32	COMPUTER SUPPORT - GRAPHICS DEVICE
RA16	PERLIBRA	00	50	4	36	PERSONNEL - LIBRARIAN
RA17	PERXPRT	00	50	4	38	PERSONNEL - DEDICATED EXPERT
RA18	PERVNTM	00	50	4	40	PERSONNEL - V&V TEAM
RA81	DEVPROCS	000	150	4	46	SUM RAO1 THROUGH RAO3
RA82	SUPPORTSM	000	150	4	49	SUM RAO4 THROUGH RAO6
RA83	COMPUTER	000	400	4	52	SUM RAO7 THROUGH RA14
RA84	PERSONEL	000	150	4	55	SUM RA16 THROUGH RA18
RA85	TOTAL	000	850	4	58	SUM RA81 THROUGH RA84
RK01	DPROG	050	970	5	6	DESIGN - PROGRAMMERS
RK02	DTSPROJ	046	844	5	9	DESIGN - TECHNICAL STAFF: PROGRAMMERS, PROJECT
RK03	DTSANALY	043	787	5	12	DESIGN - TECHNICAL STAFF: PROGRAMMERS, PROJECT
RK04	DTSDVEL	043	787	5	15	DESIGN - TECHNICAL STAFF: PROGRAMMERS, DEVELOPMENT
RK05	DMPROJ	031	477	5	18	DESIGN - DEVELOPMENT MANAGEMENT: PROJECT
RK06	DDMANALY	031	477	5	21	DESIGN - DEVELOPMENT MANAGEMENT: PROJECT, ANALYSIS
RK07	DDMDEL	031	477	5	24	DESIGN - DEVELOPMENT MANAGEMENT: DEVELOPMENT
RK08	DIMANALY	031	477	5	27	DESIGN - INTERFACE MANAGEMENT: ANALYSIS
RK09	DIMDEL	031	477	5	30	DESIGN - INTERFACE MANAGEMENT: DEVELOPMENT
RK11	IPROG	050	970	5	36	IMPLEMENTATION - PROGRAMMERS
RK12	ITSPROJ	046	844	5	39	IMPLEMENTATION - TECHNICAL STAFF: PROGRAMMERS, PROJECT
RK13	ITSANALY	043	787	5	42	IMPLEMENTATION - TECHNICAL STAFF: PROGRAMMERS, PROJECT
RK14	ITSDVEL	043	787	5	45	IMPLEMENTATION - TECHNICAL STAFF: PROGRAMMERS, DEVELOPMENT
RK15	TMPROJ	031	477	5	48	IMPLEMENTATION - DEVELOPMENT MANAGEMENT: PROJECT
RK16	TOMANALY	031	477	5	51	IMPLEMENTATION - DEVELOPMENT MANAGEMENT: PROJECT, ANALYSIS
RK17	TOMDEL	031	477	5	54	IMPLEMENTATION - DEVELOPMENT MANAGEMENT: DEVELOPMENT
RK18	TIMANALY	031	477	5	57	IMPLEMENTATION - INTERFACE MANAGEMENT: ANALYSIS
RK19	TIMDEL	031	477	5	60	IMPLEMENTATION - INTERFACE MANAGEMENT: DEVELOPMENT
RK21	TFOG	050	970	5	66	TEST - PROGRAMMERS
RK22	TTSPROJ	046	844	5	69	TEST - TECHNICAL STAFF: PROGRAMMERS, PROJECT
RK23	TTSANALY	043	787	5	72	TEST - TECHNICAL STAFF: PROGRAMMERS, PROJECT
RK24	TTSDVEL	043	787	5	75	TEST - TECHNICAL STAFF: PROGRAMMERS, DEVELOPMENT
RK25	TMPROJ	031	477	5	78	TEST - DEVELOPMENT MANAGEMENT: PROJECT
RK26	TOMANALY	031	477	5	81	TEST - DEVELOPMENT MANAGEMENT: PROJECT, ANALYSIS
RK27	TOMDEL	031	477	5	84	TEST - DEVELOPMENT MANAGEMENT: DEVELOPMENT
RK28	TIMANALY	031	477	5	87	TEST - INTERFACE MANAGEMENT: ANALYSIS
RK29	TIMDEL	031	477	5	90	TEST - INTERFACE MANAGEMENT: DEVELOPMENT
RK31	OPROG	050	970	5	96	OVERALL - PROGRAMMERS
RK32	OTSPROJ	046	844	5	99	OVERALL - TECHNICAL STAFF: PROGRAMMERS, PROJECT

Figure 2-46. Subjective Evaluations Directory File Report Program (DBRPTDIR)
Output (7 of 13)

SUBJECTIVE EVALUATIONS DIRECTORY INFORMATION (DIR HDR)

CODE	MEASURE NAME	MTN VALUE	MAX VALUE	REC SEQ	BYTE LOC	DESCRIPTION
RK33	OTSANALY	043	787	5	102	OVERALL - TECHNICAL STAFF: PROGRAMMERS, PROJECT
RK34	OTSDEVEL	043	787	5	105	OVERALL - TECHNICAL STAFF: PROGRAMMERS, DEVELOPMENT
RK35	QDMPRDU	031	477	5	108	OVERALL - DEVELOPMENT MANAGEMENT: PROJECT
RK36	QDMANALY	031	477	5	111	OVERALL - DEVELOPMENT MANAGEMENT: PROJECT, ANALYSIS
RK37	QDMDEVEL	031	477	5	114	OVERALL - DEVELOPMENT MANAGEMENT: DEVELOPMENT
RK38	QTMANALY	031	477	5	117	OVERALL - INTERFACE MANAGEMENT: ANALYSIS
RK39	QTMDEVEL	031	477	5	120	OVERALL - INTERFACE MANAGEMENT: DEVELOPMENT
SEB1	SWENGRER	0000	2000	1	149	SUM MT84, TS81 *500/600, DC81
SW01	COMPEN	0000	7200	7	142	COMPONENTS - NEW
SW02	COMPSE	0000	1800	7	146	COMPONENTS - EXTENSIVELY MODIFIED
SW03	COMPSS	0000	3600	7	150	COMPONENTS - SLIGHTLY MODIFIED
SW04	COMPSS	0000	5400	7	154	COMPONENTS - OLD
SW05	COMPST	0000	7200	7	158	COMPONENTS - TOTAL
SW06	MODSN	0000	4800	7	162	MODULES - NEW
SW07	MODSE	0000	1200	7	166	MODULES - EXTENSIVELY MODIFIED
SW08	MODSS	0000	2400	7	170	MODULES - SLIGHTLY MODIFIED
SW09	MODSO	0000	3600	7	174	MODULES - OLD
SW10	MODST	0000	4800	7	178	MODULES - TOTAL
SW11	LOCLOLN	000000	060000	7	182	LOC ALC - NEW
SW12	LOCLOLE	000000	015000	7	188	LOC ALC - EXTENSIVELY MODIFIED
SW13	LOCLOLS	000000	030000	7	194	LOC ALC - SLIGHTLY MODIFIED
SW14	LOCLOLO	000000	045000	7	200	LOC ALC - OLD
SW15	LOCLOLT	000000	060000	7	206	LOC ALC - TOTAL
SW16	LOCMDLN	000000	060000	7	212	LOC MACROS - NEW
SW17	LOCMDLE	000000	015000	7	218	LOC MACROS - EXTENSIVELY MODIFIED
SW18	LOCMDLS	000000	030000	7	224	LOC MACROS - SLIGHTLY MODIFIED
SW19	LOCMDLO	000000	045000	7	230	LOC MACROS - OLD
SW20	LOCMDLT	000000	060000	7	236	LOC MACROS - TOTAL
SW21	LOCMDLN	000000	240000	7	242	LOC FORTRAN - NEW
SW22	LOCMDLE	000000	060000	7	248	LOC FORTRAN - EXTENSIVELY MODIFIED
SW23	LOCMDLS	000000	120000	7	254	LOC FORTRAN - SLIGHTLY MODIFIED
SW24	LOCMDLO	000000	180000	7	260	LOC FORTRAN - OLD
SW25	LOCMDLT	000000	240000	7	266	LOC FORTRAN - TOTAL
SW26	LOCN	000000	240000	7	272	LOC TOTAL - NEW
SW27	LOCN	000000	060000	7	278	LOC TOTAL - EXTENSIVELY MODIFIED
SW28	LOCN	000000	120000	7	284	LOC TOTAL - SLIGHTLY MODIFIED
SW29	LOCN	000000	180000	7	290	LOC TOTAL - OLD
SW30	LOCN	000000	240000	7	296	LOC TOTAL - TOTAL
SW31	EXLOLN	000000	030000	7	302	EXECUTABLE ALC - NEW
SW32	EXLOLE	000000	007500	7	308	EXECUTABLE ALC - EXTENSIVELY MODIFIED
SW33	EXLOLS	000000	015000	7	314	EXECUTABLE ALC - SLIGHTLY MODIFIED
SW34	EXLOLO	000000	022500	7	320	EXECUTABLE ALC - OLD
SW35	EXLOLT	000000	030000	7	326	EXECUTABLE ALC - TOTAL
SW36	EXMDLN	000000	030000	7	332	EXECUTABLE MACROS - NEW
SW37	EXMDLE	000000	007500	7	338	EXECUTABLE MACROS - EXTENSIVELY MODIFIED
SW38	EXMDLS	000000	015000	7	344	EXECUTABLE MACROS - SLIGHTLY MODIFIED
SW39	EXMDLO	000000	022500	7	350	EXECUTABLE MACROS - OLD
SW40	EXMDLT	000000	030000	7	356	EXECUTABLE MACROS - TOTAL

Figure 2-46. Subjective Evaluations Directory File Report Program (DBRPTDIR) Output (8 of 13)

SUBJECTIVE EVALUATIONS DIRECTORY INFORMATION (DIR.HDR)

CODE	MEASURE NAME	MIN VALUE	MAX VALUE	REC SEQ	BYTE LOC	DESCRIPTION
SW41	EXHOLN	000000	120000	7	362	EXECUTABLE FORTRAN - NEW
SW42	EXHOLE	000000	030000	7	368	EXECUTABLE FORTRAN - EXTENSIVELY MODIFIED
SW43	EXHOLS	000000	060000	7	374	EXECUTABLE FORTRAN - SLIGHTLY MODIFIED
SW44	EXHOLA	000000	090000	7	380	EXECUTABLE FORTRAN - OLD
SW45	EXHOLT	000000	120000	7	386	EXECUTABLE FORTRAN - TOTAL
SW46	EXHOLN	000000	120000	7	392	EXECUTABLE TOTAL - NEW
SW47	EXHOLE	000000	030000	7	398	EXECUTABLE TOTAL - EXTENSIVELY MODIFIED
SW48	EXHOLS	000000	060000	7	404	EXECUTABLE TOTAL - SLIGHTLY MODIFIED
SW49	EXHOLA	000000	090000	7	410	EXECUTABLE TOTAL - OLD
SW50	EXHOLA	000000	120000	7	416	EXECUTABLE TOTAL - TOTAL
SW51	DECISIONN	000000	480000	7	422	DECISIONS - NEW
SW52	DECISIONE	000000	120000	7	427	DECISIONS - EXTENSIVELY MODIFIED
SW53	DECISIONS	000000	240000	7	432	DECISIONS - SLIGHTLY MODIFIED
SW54	DECISIONO	000000	360000	7	437	DECISIONS - OLD
SW55	DECISIONT	000000	480000	7	442	DECISIONS - TOTAL
SW56	LCHANGE	000000	120000	7	447	LIBRARY CHANGES - NEW
SW57	LCHANGE	000000	090000	7	452	LIBRARY CHANGES - EXTENSIVELY MODIFIED
SW58	LCHANGE	000000	060000	7	457	LIBRARY CHANGES - SLIGHTLY MODIFIED
SW59	LCHANGE	000000	030000	7	462	LIBRARY CHANGES - OLD
SW60	LCHANGE	000000	120000	7	467	LIBRARY CHANGES - TOTAL
SW61	CHANGE	000000	90000	7	472	SOFTWARE CHANGES - NEW
SW62	CHANGE	000000	67500	7	476	SOFTWARE CHANGES - EXTENSIVELY MODIFIED
SW63	CHANGES	000000	45000	7	480	SOFTWARE CHANGES - SLIGHTLY MODIFIED
SW64	CHANGED	000000	22500	7	484	SOFTWARE CHANGES - OLD
SW65	CHANGET	000000	90000	7	488	SOFTWARE CHANGES - TOTAL
SW66	SWERRSN	000000	60000	7	492	SOFTWARE ERRORS - NEW
SW67	SWERRSE	000000	45000	7	496	SOFTWARE ERRORS - EXTENSIVELY MODIFIED
SW68	SWERRSS	000000	30000	7	500	SOFTWARE ERRORS - SLIGHTLY MODIFIED
SW69	SWERRSO	000000	15000	7	504	SOFTWARE ERRORS - OLD
SW70	SWERRST	000000	60000	7	508	SOFTWARE ERRORS - TOTAL
SW71	PCOMNTSN	000000	99	7	512	PERCENTAGE OF COMMENTS: NEW
SW72	PCOMNTSE	000000	99	7	514	PERCENTAGE OF COMMENTS: EXTENSIVELY MODIFIED
SW73	PCOMNTSS	000000	99	7	516	PERCENTAGE OF COMMENTS: SLIGHTLY MODIFIED
SW74	PCOMNTSO	000000	99	7	518	PERCENTAGE OF COMMENTS: OLD
SW75	PCOMNTST	000000	99	7	520	PERCENTAGE OF COMMENTS: TOTAL
SW76	ERRLOC	000000	25000	7	522	ERRORS PER 1000 LOC
SW77	ERRXLOC	000000	50000	7	526	ERRORS PER 1000 EXECUTABLE LOC
SW78	ERRDECSN	000000	37500	7	530	ERRORS PER 1000 DECISIONS
SW79	ERRCOMP	000000	167	7	534	ERRORS PER BASELINE DIAGRAM COMPONENT
SW80	ERRMOD	000000	250	7	537	ERRORS PER DECISION MODULE
SW81	DECLCLOC	000000	200	7	540	DECISIONS PER 1000 LOC
SW82	DECLXLOC	000000	400	7	543	DECISIONS PER 1000 EXECUTABLE LOC
SW83	DECCOMP	000000	200	7	546	DECISIONS PER BASELINE DIAGRAM COMPONENT
SW84	DECMOD	000000	300	7	549	DECISIONS PER DECISION MODULE
SW85	RATIOEXP	000000	999	7	552	RATIO OF LOC TO EXPANDED LOC
SW86	EXLOCLOC	000000	500	7	555	EXECUTABLE LOC PER 1000 LOC
SW87	EXLOCOMP	000000	667	7	558	EXECUTABLE LOC PER BASELINE DIAGRAM COMPONENT
SW88	EXLOCMOD	000000	250	7	561	EXECUTABLE LOC PER DECISION MODULE

Figure 2-46. Subjective Evaluations Directory File Report Program (DBRPTDIR)
Output (9 of 13)

SUBJECTIVE EVALUATIONS DIRECTORY INFORMATION (DIR.HDR)

CODE	MEASURE NAME	MIN VALUE	MAX VALUE	REC SEQ	BYTE LOC	DESCRIPTION
SWB9	COMPCHG	000	500	7	564	DATA SET COMPONENTS PER CHANGE
SW90	PERFRNG	00	99	7	567	PERCENTAGE OF ERRORS IN CHANGES
TS01	FMTRAIN	00	50	1	81	FORMAL TRAINING IN METHODOLOGY
TS02	INFTRAIN	00	50	1	83	INFORMAL TRAINING
TS03	MTRENFRC	00	50	1	85	METHODOLOGY REENFORCEMENT
TS04	MEDLR	00	50	1	87	REQUIREMENTS LANGUAGE (MEDLR)
TS05	PDL	00	50	1	89	DESIGN LANGUAGE (PDL)
TS06	SFORT	00	50	1	91	PRECOMPILER (SFORT)
TS07	AIDS	00	50	1	93	SOFTWARE AIDS (XREF, MAP, LIST, ETC.)
TS08	LIBRARIN	00	50	1	95	LIBRARIAN
TS09	DATAGENS	00	50	1	97	DATA GENERATORS
TS10	TSO	00	50	1	99	TERMINALS (TSO)
TS11	RJP	00	50	1	101	REMOTE JOB PROCESSING (RJP)
TS12	CAT	00	50	1	103	CONFIGURATION ANALYSIS TOOL (CAT)
TS81	TOTAL	000	600	1	111	SUM TSO1 THROUGH TS12
WF01	APPLICA	00	50	6	6	EXPERIENCE WITH APPLICATION
WF02	EREDEF	00	50	6	8	PARTICIPATION IN REQUIREMENTS DEFINITION
WF03	EPDESIGN	00	99	6	10	PERCENTAGE OF PROGRAMMERS IN DESIGN
WF04	EQUALFX	00	60	6	12	PROGRAMMERS' QUALIFICATIONS
WF05	EPMACHIN	00	50	6	14	PROGRAMMERS' FAMILIARITY WITH MACHINE
WF06	EPLANGE	00	50	6	16	PROGRAMMERS' FAMILIARITY WITH LANGUAGE
WF07	EPGRAPHX	00	50	6	18	PROGRAMMERS' FAMILIARITY WITH GRAPHICS
WF08	EPAPPLIC	00	50	6	20	DEGREE TO WHICH PERSONNEL WORKED TOGETHER
WF09	EPTOGETH	00	50	6	22	PARTICIPATION IN REQUIREMENTS DEFINITION
WF11	EREDEF	00	50	6	25	CUSTOMER INTERFACE
WF12	CINTERFC	00	50	6	28	CUSTOMER ORIGINATED DESIGN CHANGES
WF13	COCHANGES	00	60	6	30	APPLICATION PROCESSING
WF14	CPROCESS	00	50	6	32	PROGRAM FLOW
WF15	CFLOW	00	50	6	34	INTERPROGRAM COMMUNICATIONS
WF16	CPRGCOM	00	50	6	36	EXTERNAL COMMUNICATION
WF17	CEXTCOM	00	50	6	38	DATA BASE STRUCTURE
WF18	COBSTRUC	00	50	6	40	PERCENTAGE OF CODE REAL-TIME OR GRAPHICS
WF19	CGRAPHX	00	50	6	42	STORAGE CONSTRAINT
WF20	CSTORAGE	00	50	6	44	TIMING CONSTRAINT
WF21	CTIMING	00	50	6	46	INPUT/OUTPUT CONSTRAINT
WF22	CIO	00	50	6	48	ITEMS IN DATA BASE
WF23	COBITEMS	00	99	6	50	HARDWARE UNDER DEVELOPMENT
WF24	CHW	00	50	6	52	UNCLASSIFIED
WF25	CCLASIFD	00	50	6	54	PERCENTAGE OF DEVELOPMENT ON IBM S/360-95
WF31	PDEV95	000	999	6	66	PERCENTAGE OF DEVELOPMENT ON IBM S/360-75
WF32	PDEV75	000	999	6	69	PERCENTAGE OF DEVELOPMENT AT STL
WF33	PDEVSTL	000	999	6	72	PERCENTAGE OF PROGRAMMERS IN DESIGN
WF34	PPDESIGN	000	999	6	75	PERCENTAGE OF PREVIOUS PERSONNEL INTERACTIONS
WF35	P10GETHR	000	999	6	78	PERCENTAGE OF ENVIRONMENT CLOSED
WF36	PECLOSED	000	050	6	81	PERCENTAGE OF ENVIRONMENT OPEN WITH REQUEST
WF37	PEOPENMR	000	999	6	84	PERCENTAGE OF ENVIRONMENT OPEN
WF38	PERPEN	000	999	6	87	PERCENTAGE OF ENVIRONMENT RUE
WF39	PERJE	000	999	6	90	

Figure 2-46. Subjective Evaluations Directory File Report Program (DBRPTDIR)
Output (10 of 13)

SUBJECTIVE EVALUATIONS DIRECTORY INFORMATION (DIR HDR)

CODE	MEASURE NAME	MIN VALUE	MAX VALUE	REC SEQ	BYTE LOC	DESCRIPTION
WF40	PETSO	000	999	6	93	PERCENTAGE OF ENVIRONMENT TSO
WF41	PCSTRUC	000	999	6	96	PERCENTAGE OF CODE STRUCTURED
WF42	PCREAD	000	999	6	99	PERCENTAGE OF CODE READ
WF43	PCTOPDOWN	000	999	6	102	PERCENTAGE OF CODE DEVELOPED TOP-DOWN
WF44	PCCHIEF	000	999	6	105	PERCENTAGE OF CODE VIA CHIEF PROGRAMMER
WF45	PCMANAGE	000	250	5	108	PERCENTAGE OF EFFORT MANAGEMENT
WF46	PCADMIN	000	100	6	111	PERCENTAGE OF EFFORT ADMINISTRATION
WF47	PCPROG	000	990	6	114	PERCENTAGE OF EFFORT PROGRAMMERS
WF48	PCANALYT	000	990	6	117	PERCENTAGE OF EFFORT ANALYSTS
WF49	PCOPER	000	333	6	120	PERCENTAGE OF EFFORT OPERATORS
WF50	PCOTHERS	000	250	6	123	PERCENTAGE OF EFFORT OTHERS
WF51	PTOTALHR	00000	96000	6	126	TOTAL HOURS
WF52	PCOSTPHR	00000	99999	6	131	TOTAL COST IN PROGRAMMER UNITS
WF53	PTWEEKS	450	999	6	139	PERCENTAGE OF SCHEDULE TO COMPLETE ACCEPTANCE TESTING
WF54	PTCHECKS	016	104	6	142	TOTAL WEEKS TO COMPLETE PROJECT (WORKWEEKS)
WF55	PCNONMTH	000	999	6	160	PERCENTAGE OF CODE NONMATHEMATICAL AND I/O FORMATTING
WF56	DCNATH	000	500	6	163	PERCENTAGE OF CODE MATHEMATICAL AND COMPUTATIONAL
WF57	DCICNTL	000	250	6	166	PERCENTAGE OF CODE CPU AND I/O CONTROL
WF58	DCRECDVR	000	100	6	169	PERCENTAGE OF CODE FALLBACK AND RECOVERY
WF59	DCOTHER	000	999	6	172	PERCENTAGE OF CODE OTHER
WF60	DCGRAPHX	000	625	6	175	PERCENTAGE OF CODE REAL-TIME OR GRAPHICS
WF61	DDVLOT	000000	060000	6	178	DEVELOPED LINES OF ALC
WF62	DDVMOL	000000	060000	6	184	DEVELOPED LINES OF MACROS
WF63	DDVLOT	000000	240000	6	190	DEVELOPED LINES OF FORTRAN
WF64	DDLLOT	000000	240000	6	196	TOTAL DEVELOPED LINES
WF65	DDLLOT	000000	060000	6	202	DELIVERED LINES OF ALC
WF66	DDLLOT	000000	060000	6	208	DELIVERED LINES OF MACROS
WF67	DDLLOT	000000	240000	6	214	DELIVERED LINES OF FORTRAN
WF68	DDLLOT	000000	240000	6	220	TOTAL DELIVERED LINES
WF69	DDBITEMS	0000	2000	6	226	ITEMS IN DATA BASE
WF70	DDOCPAGE	0000	9999	6	230	PAGES OF DOCUMENTATION
WF71	EXPERIEN	000	509	6	233	SUM WF01 THROUGH WF09
WF72	COMPLEX	000	809	6	253	SUM WF11 THROUGH WF25
WF73	DPROG	010	175	5	250	DESIGN - PROGRAMMERS
WF74	DISPROJ	014	185	5	253	DESIGN - TECHNICAL STAFF : PROGRAMMERS, PROJECT
WF75	DISANALY	016	190	5	256	DESIGN - TECHNICAL STAFF : PROGRAMMERS, PROJECT
WF76	DISDEVEL	016	190	5	259	DESIGN - TECHNICAL STAFF : PROGRAMMERS, DEVELOPMENT
WF77	DDMPROJ	030	225	5	262	DESIGN - TECHNICAL STAFF : PROJECT
WF78	DDMANALY	030	225	5	265	DESIGN - DEVELOPMENT MANAGEMENT : PROJECT, ANALYSIS
WF79	DDMDEVEL	030	225	5	268	DESIGN - DEVELOPMENT MANAGEMENT : DEVELOPMENT
WF80	DIMANALY	030	225	5	271	DESIGN - INTERFACE MANAGEMENT : ANALYSIS
WF81	DIMDEVEL	030	225	5	274	DESIGN - INTERFACE MANAGEMENT : DEVELOPMENT
WF82	IPROG	010	175	5	280	IMPLEMENTATION - PROGRAMMERS
WF83	ITSPROJ	014	185	5	283	IMPLEMENTATION - TECHNICAL STAFF : PROGRAMMERS, PROJECT
WF84	ITSANALY	016	190	5	286	IMPLEMENTATION - TECHNICAL STAFF : PROGRAMMERS, PROJECT
WF85	ITSDEVEL	016	190	5	289	IMPLEMENTATION - TECHNICAL STAFF : PROGRAMMERS, PROJECT
WF86	IDMPROJ	030	225	5	292	IMPLEMENTATION - DEVELOPMENT MANAGEMENT : PROJECT
WF87	IDMANALY	030	225	5	295	IMPLEMENTATION - DEVELOPMENT MANAGEMENT : PROJECT

Figure 2-46. Subjective Evaluations Directory File Report Program (DBRPTDIR)
Output (11 of 13)

SUBJECTIVE EVALUATIONS DIRECTORY INFORMATION (DIR.HDR)

CODE	MEASURE NAME	MIN VALUE	MAX VALUE	REC SEQ	BYTE LOC	DESCRIPTION
YA17	IDWDEL	030	225	5	298	IMPLEMENTATION - DEVELOPMENT MANAGEMENT : DEVELOPMENT
YA18	ISANALY	030	225	5	301	IMPLEMENTATION - INTERFACE MANAGEMENT : ANALYSIS
YA19	IMDEL	030	225	5	304	IMPLEMENTATION - INTERFACE MANAGEMENT : DEVELOPMENT
YA21	IPROG	010	175	5	310	TEST - PROGRAMMERS
YA23	ITSPROJ	014	185	5	313	TEST - TECHNICAL STAFF : PROGRAMMERS, PROJECT MANAGERS
YA24	ISANALY	016	190	5	316	TEST - TECHNICAL STAFF : PROGRAMMERS, PROJECT MANAGERS
YA25	ITSDDEL	016	190	5	319	TEST - TECHNICAL STAFF : PROGRAMMERS, DEVELOPMENT
YA26	ITMPROJ	030	225	5	322	TEST - DEVELOPMENT MANAGEMENT : PROJECT
YA27	IDMANALY	030	225	5	325	TEST - DEVELOPMENT MANAGEMENT : PROJECT, ANALYSIS
YA28	IDWDEL	030	225	5	328	TEST - DEVELOPMENT MANAGEMENT : DEVELOPMENT
YA29	ISANALY	030	225	5	331	TEST - INTERFACE MANAGEMENT : ANALYSIS
YA30	IMDEL	030	225	5	334	TEST - INTERFACE MANAGEMENT : DEVELOPMENT
YA31	IPROG	010	175	5	340	OVERALL - PROGRAMMERS
YA32	ITSPROJ	014	185	5	343	OVERALL - TECHNICAL STAFF : PROGRAMMERS, PROJECT
YA33	ISANALY	016	190	5	346	OVERALL - TECHNICAL STAFF : PROGRAMMERS, PROJECT
YA34	ITSDDEL	016	190	5	349	OVERALL - TECHNICAL STAFF : PROGRAMMERS, DEVELOPMENT
YA35	IDMPROJ	030	225	5	352	OVERALL - DEVELOPMENT MANAGEMENT : PROJECT
YA36	IDMANALY	030	225	5	355	OVERALL - DEVELOPMENT MANAGEMENT : PROJECT, ANALYSIS
YA37	IDWDEL	030	225	5	358	OVERALL - DEVELOPMENT MANAGEMENT : DEVELOPMENT
YA38	ISANALY	030	225	5	361	OVERALL - INTERFACE MANAGEMENT : ANALYSIS
YA39	IMDEL	030	225	5	364	OVERALL - INTERFACE MANAGEMENT : DEVELOPMENT
VE01	DPROG	000	150	5	372	DESIGN - PROGRAMMERS
VE02	ITSPROJ	005	160	5	375	DESIGN - TECHNICAL STAFF : PROGRAMMERS, PROJECT MANAGERS
VE03	ISANALY	008	165	5	378	DESIGN - TECHNICAL STAFF : PROGRAMMERS, PROJECT
VE04	ITSDDEL	008	165	5	381	DESIGN - TECHNICAL STAFF : PROGRAMMERS, DEVELOPMENT
VE05	IDMPROJ	025	200	5	384	DESIGN - DEVELOPMENT MANAGEMENT : PROJECT
VE06	IDMANALY	025	200	5	387	DESIGN - DEVELOPMENT MANAGEMENT : PROJECT, ANALYSIS
VE07	IDWDEL	025	200	5	390	DESIGN - DEVELOPMENT MANAGEMENT : DEVELOPMENT
VE08	ISANALY	025	200	5	393	DESIGN - INTERFACE MANAGEMENT : ANALYSIS
VE09	IMDEL	025	200	5	396	DESIGN - INTERFACE MANAGEMENT : DEVELOPMENT
VE11	IPROG	000	150	5	402	IMPLEMENTATION - PROGRAMMERS
VE12	ITSPROJ	005	160	5	405	IMPLEMENTATION - TECHNICAL STAFF : PROGRAMMERS,
VE13	ISANALY	008	165	5	409	IMPLEMENTATION - TECHNICAL STAFF : PROGRAMMERS,
VE14	ITSDDEL	008	165	5	411	IMPLEMENTATION - TECHNICAL STAFF : PROGRAMMERS,
VE15	IDMPROJ	025	200	5	414	IMPLEMENTATION - DEVELOPMENT MANAGEMENT : PROJECT
VE16	IDMANALY	025	200	5	417	IMPLEMENTATION - DEVELOPMENT MANAGEMENT : PROJECT,
VE17	IDWDEL	025	200	5	420	IMPLEMENTATION - DEVELOPMENT MANAGEMENT : DEVELOPMENT
VE18	ISANALY	025	200	5	423	IMPLEMENTATION - INTERFACE MANAGEMENT : ANALYSIS
VE19	IMDEL	025	200	5	426	IMPLEMENTATION - INTERFACE MANAGEMENT : DEVELOPMENT
VE21	IPROG	000	150	5	432	TEST - PROGRAMMERS
VE22	ITSPROJ	005	160	5	435	TEST - TECHNICAL STAFF : PROGRAMMERS, PROJECT MANAGERS
VE23	ISANALY	008	165	5	438	TEST - TECHNICAL STAFF : PROGRAMMERS, PROJECT MANAGERS,
VE24	ITSDDEL	008	165	5	441	TEST - TECHNICAL STAFF : PROGRAMMERS, DEVELOPMENT
VE25	IDMPROJ	025	200	5	444	TEST - DEVELOPMENT MANAGEMENT : PROJECT
VE26	IDMANALY	025	200	5	447	TEST - DEVELOPMENT MANAGEMENT : PROJECT, ANALYSIS
VE27	IDWDEL	025	200	5	450	TEST - DEVELOPMENT MANAGEMENT : DEVELOPMENT
VE28	ISANALY	025	200	5	453	TEST - INTERFACE MANAGEMENT : ANALYSIS
VE29	IMDEL	025	200	5	456	TEST - INTERFACE MANAGEMENT : DEVELOPMENT

Figure 2-46. Subjective Evaluations Directory File Report Program (DBRPTDIR)
Output (12 of 13)

SUBJECTIVE EVALUATIONS DIRECTORY INFORMATION (DIR.HDR)

CODE	MEASURE NAME	MIN VALUE	MAX VALUE	REC SEQ	BYTE LOC	DESCRIPTION
YE31	OPRUG	000	150	5	462	OVERALL - PROGRAMMERS
YE32	OTSPROJ	005	160	5	465	OVERALL - TECHNICAL STAFF : PROGRAMMERS, PROJECT
YE33	OTSANALY	008	165	5	468	OVERALL - TECHNICAL STAFF : PROGRAMMERS, PROJECT
YE34	OTSDEVEL	008	165	5	471	OVERALL - TECHNICAL STAFF : PROGRAMMERS, PROJECT
YE35	ODMPROJ	025	200	5	474	OVERALL - DEVELOPMENT MANAGEMENT : PROJECT
YE36	ODMANALY	025	200	5	477	OVERALL - DEVELOPMENT MANAGEMENT : PROJECT, ANALYSIS
YE37	ODMDEVEL	025	200	5	480	OVERALL - DEVELOPMENT MANAGEMENT : DEVELOPMENT
YE38	OTMANALY	025	200	5	483	OVERALL - INTERFACE MANAGEMENT : ANALYSIS
YE39	OTMDEVEL	025	200	5	486	OVERALL - INTERFACE MANAGEMENT : DEVELOPMENT
YPO1	OPROG	020	200	5	128	DESIGN - PROGRAMMERS
YPO2	OTSPROJ	023	210	5	131	DESIGN - TECHNICAL STAFF : PROGRAMMERS, PROJECT
YPO3	OTSANALY	025	215	5	134	DESIGN - TECHNICAL STAFF : PROGRAMMERS, PROJECT
YPO4	OTSDEVEL	025	215	5	137	DESIGN - TECHNICAL STAFF : PROGRAMMERS, DEVELOPMENT
YPO5	ODMPROJ	035	250	5	140	DESIGN - DEVELOPMENT MANAGEMENT : PROJECT
YPO6	ODMANALY	035	250	5	143	DESIGN - DEVELOPMENT MANAGEMENT : PROJECT, ANALYSIS
YPO7	ODMDEVEL	035	250	5	146	DESIGN - DEVELOPMENT MANAGEMENT : DEVELOPMENT
YPO8	OTMANALY	035	250	5	149	DESIGN - INTERFACE MANAGEMENT : ANALYSIS
YPO9	OTMDEVEL	035	250	5	152	DESIGN - INTERFACE MANAGEMENT : DEVELOPMENT
YPI1	IPROG	020	200	5	158	IMPLEMENTATION - PROGRAMMERS
YPI2	ITSPROJ	023	210	5	161	IMPLEMENTATION - TECHNICAL STAFF : PROGRAMMERS,
YPI3	ITSANALY	025	215	5	164	IMPLEMENTATION - TECHNICAL STAFF : PROGRAMMERS,
YPI4	ITSDEVEL	025	215	5	167	IMPLEMENTATION - TECHNICAL STAFF : PROGRAMMERS,
YPI5	IDMPROJ	035	250	5	170	IMPLEMENTATION - DEVELOPMENT MANAGEMENT : PROJECT
YPI6	IDMANALY	035	250	5	173	IMPLEMENTATION - DEVELOPMENT MANAGEMENT : PROJECT,
YPI7	IDMDEVEL	035	250	5	176	IMPLEMENTATION - DEVELOPMENT MANAGEMENT : DEVELOPMENT
YPI8	ITMANALY	035	250	5	179	IMPLEMENTATION - INTERFACE MANAGEMENT : ANALYSIS
YPI9	ITMDEVEL	035	250	5	182	IMPLEMENTATION - INTERFACE MANAGEMENT : DEVELOPMENT
YPI1	IPROG	020	200	5	188	TEST - PROGRAMMERS
YPI2	ITSPROJ	023	210	5	191	TEST - TECHNICAL STAFF : PROGRAMMERS, PROJECT MANAGERS
YPI3	ITSANALY	025	215	5	194	TEST - TECHNICAL STAFF : PROGRAMMERS, DEVELOPMENT
YPI4	ITSDEVEL	025	215	5	197	TEST - TECHNICAL STAFF : PROGRAMMERS, DEVELOPMENT
YPI5	IDMPROJ	035	250	5	200	TEST - DEVELOPMENT MANAGEMENT : PROJECT
YPI6	IDMANALY	035	250	5	203	TEST - DEVELOPMENT MANAGEMENT : PROJECT, ANALYSIS
YPI7	IDMDEVEL	035	250	5	206	TEST - DEVELOPMENT MANAGEMENT : DEVELOPMENT
YPI8	ITMANALY	035	250	5	209	TEST - INTERFACE MANAGEMENT : ANALYSIS
YPI9	ITMDEVEL	035	250	5	212	TEST - INTERFACE MANAGEMENT : DEVELOPMENT
YPI1	IPROG	020	200	5	218	OVERALL - PROGRAMMERS
YPI2	ITSPROJ	023	210	5	221	OVERALL - TECHNICAL STAFF : PROGRAMMERS, PROJECT
YPI3	ITSANALY	025	215	5	224	OVERALL - TECHNICAL STAFF : PROGRAMMERS, PROJECT
YPI4	ITSDEVEL	025	215	5	227	OVERALL - TECHNICAL STAFF : PROGRAMMERS, DEVELOPMENT
YPI5	IDMPROJ	035	250	5	230	OVERALL - DEVELOPMENT MANAGEMENT : PROJECT
YPI6	IDMANALY	035	250	5	233	OVERALL - DEVELOPMENT MANAGEMENT : PROJECT, ANALYSIS
YPI7	IDMDEVEL	035	250	5	236	OVERALL - DEVELOPMENT MANAGEMENT : DEVELOPMENT
YPI8	ITMANALY	035	250	5	239	OVERALL - INTERFACE MANAGEMENT : ANALYSIS
YPI9	ITMDEVEL	035	250	5	242	OVERALL - INTERFACE MANAGEMENT : DEVELOPMENT

Figure 2-46. Subjective Evaluations Directory File Report Program (DBRPTDIR)
Output (13 of 13)

2.15 ENCODING DICTIONARY LISTING PROCEDURE (DBRPTENC)

2.15.1 INTRODUCTION

2.15.1.1 Function and Purpose

The Encoding Dictionary Listing Procedure (DBRPTENC) lists the contents of the Encoding Dictionary by using DATATRIEVE. It is used to monitor the SEL data base.

2.15.1.2 System Resources

The DBRPTENC procedure is a DATATRIEVE command file that is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a disk, and a lineprinter. The terminal acts as an output message device. Input to the procedure consists of the Encoding Dictionary (ENC) file that is stored on disk and is on line to the PDP-11/70. The output listing is stored by the DBRPTENC procedure on disk and may be directed to the lineprinter by the user after the procedure terminates.

2.15.1.3 Approximate Run Time

The normal execution time of the DBRPTENC procedure depends on the size of the Encoding Dictionary. Approximately 82 seconds (wall-clock time) are required to run the procedure on the current size of the Encoding Dictionary (469 records).

2.15.2 PROCEDURE INVOCATION

To execute the DBRPTENC procedure, the user enters the following command on the user's terminal:

```
DTR @[204,4]DBRPTENC.DTR
```

2.15.3 PROCEDURE OPERATION

After the user invokes the DBRPTENC procedure, DATATRIEVE will echo each DATATRIEVE command on the file [204,4]DBRPTENC.DTR

to the user's terminal. After execution is completed, a message, YOUR REPORT IS ON FILE 'ENC.RPT', will be displayed on the user's terminal. The user may then print this listing by using the PRINT command; for example

```
PRINT ENC.RPT
```

2.15.4 SAMPLE OUTPUT

Figure 2-47 is a sample output listing of the current ENC file. Each record contains four fields (TYPE, CODE, NAME, and REST).

ENCODING DICTIONARY (ENCODE HDR)

TYPE	CODE	NAME	REST
0	0	CODETYPE	CATEGORY OF CODES
0	1	FILETYPE	CATEGORIES OF FILES
0	2	PROJCODE	PROJECT CODES
0	3	MACHINE	MACHINE CODE
0	4	PURPOSE	RUN PURPOSE CODES
0	5	RESULTS	RUN RESULTS CODES
0	6	PRECSPEC	PRECISION OF SPECIFICATION
0	7	TYPESW	TYPE OF SOFTWARE
0	8	RELTSW	RELATION TO OTHER SOFTWARE
0	9	TYREADD	TYPE OF ADDITION
0	10	LANGUAGE	LANGUAGE CODE
0	11	FORMDSGN	FORM OF DESIGN - LEVEL OF DETAIL CODE
0	12	EFFCHNGE	EFFORT FOR CHANGE
0	13	TYCHNGE	TYPE OF CHANGE
0	14	TYPERRRR	TYPE OF ERROR
0	15	ENTERSYS	WHEN ERROR ENTERED SYSTEM
0	16	ACTIVUSE	ACTIVITIES USED FOR VALIDATING, ETC.
0	17	ISOLATIM	TIME TO ISOLATE CAUSE OF ERROR
0	18	ORIGIN	ORIGIN OF SOURCE ROUTINES
0	19	SYSFUNCT	SUBSYSTEM FUNCTION
0	20	MODFUNCT	MODULE FUNCTION
0	21	SERVICES	SERVICES CODES
0	22	COMPUTER	COMPUTER CODES
0	23	PROGRAMR	PROGRAMMER CODES
0	24	ZSCALE	SUBJ EVAL FILE ORIGINAL SCALE
1	0	SELDBS	
1	1	STS	DATA BASE DIRECTORY
1	2	HDR	PROJECT HEADER INFORMATION
1	3	ENC	ENCODING DICTIONARY
1	4	CIF	COMPONENT INFORMATION
1	5	RAF	RUN ANALYSIS FORM
1	6	CSR	COMPONENT STATUS REPORT
1	7	CSF	COMPONENT SUMMARY FORM
1	8	RSF	RESOURCE SUMMARY FORM
1	9	CRF	CHANGE REPORT FORM
1	10	CMT	COMMENTS FROM FORMS
1	11	HIS	CUMULATIVE HISTORY FILE
1	12	ACC	ACCOUNTING INFORMATION
2	0	DUMMY	
2	1	GESS	GRAPHIC EXECUTIVE SUPPORT SYSTEM
2	2	AEM	APPLICATIONS EXPLORER MISSION - A
2	3	MARS	MANPOWER ALLOCATION AND REPORTING SYSTEM (DELETED)
2	4	MMSOBC	INTERNATIONAL SUN EARTH EXPLORER - B
2	5	ISEEB	PANORAMIC ATTITUDE SCANNER (ISEE-A & IUE)
2	6	PAS	SEASAT MAGNETOMETER BIAS
2	7	MAGBIAS	INTERNATIONAL SUN EARTH EXPLORER - C
2	8	ISEEC	

Figure 2-47. Encoding Dictionary File Report Program (DBRPTENC) Output (1 of 10)

ENCODING DICTIONARY (ENCODE HDR)

TYPE	CODE	NAME	REST
2	9	AVG	AVG
2	10	SEASAT	SEA SATELLITE
2	11	HEAD	(DELETED)
2	12	GPARAM	(DELETED)
2	13	NPP	NAMELIST PREPROCESSOR
2	14	MSSMM	(DELETED)
2	15	SAP	SOURCE ANALYZER PROGRAM
2	16	FINREP	FINANCIAL REPORT
2	17	NAVPAK	(DELETED)
2	18	MIDAS	(DELETED)
2	19	SMM	SOLAR MAXIMUM MISSION ATTITUDE SYSTEM
2	20	FLTRGAIN	SMM FILTER GAINS DETERMINATION
2	21	GMAS	GENERALIZED MISSION AND ANALYSIS SYSTEM
2	22	CSMR	(DELETED)
2	23	CTS	(DELETED)
2	24	GTP	(DELETED)
2	25	IRBIAS	(DELETED)
2	26	MAGSAT	MAGNETOSPHERE SATELLITE
2	27	OSOI	(DELETED)
2	28	SASC	(DELETED)
2	29	SHOEBOX	(DELETED)
2	30	GEOSC	(DELETED)
2	31	SEL	(DELETED)
2	32	CAT	(DELETED)
2	33	OBCUP	(DELETED)
2	34	FOXPP	SMM FOCUS PREPROCESSOR
2	35	FOXPRO	SMM FOCUS PROCESSOR
2	36	DEA	DYNAMICS EXPLORER - A
2	37	DEB	DYNAMICS EXPLORER - B
2	38	DESM	DYNAMICS EXPLORER SIMULATOR
2	39	GSOC	SMM GUIDE STAR SELECT + OCCULT. PREDICTION
2	40	DEDET	DE-B DETERMINISTIC
2	41	DBAN	SEL DATA BASE MAINTENANCE SOFTWARE
2	42	DECAP	DE CONTROL AND PREDICTION
2	43	DESERV	DYNAMICS EXPLORER SUN EARTH VISIBILITY
2	44	DETRAN	DYNAMICS EXPLORER TRANSFER PROGRAM
2	45	AODS	AUTONOMOUS ORBIT DETERMINATION SYSTEM
2	46	SMMFULL	SMM, GSOC, FOCUS
2	47	FOCS	FOXPP AND FOXPRO
2	48	MAGTP	MAGSAT TELEMETRY PROCESSOR
2	49	MAGNRT	MAGSAT NEAR REALTIME ATTITUDE
2	50	MAGINT	MAGSAT INTERMEDIATE ATTITUDE
2	51	MAGLOG	MAGSAT LOG INTERROGATION
2	52	MAGDOG	MAGSAT DEFINITIVE OUTPUT
2	53	MAGCP	MAGSAT CONTROL & PREDICTION
2	54	MAGIRC	MAGSAT IR CALIBRATION
2	55	MAGASP	MAGSAT ASYMMETRIC SIGNAL PROCESSOR
2	56	DEFULL	DE-A, DE-B, AND DEDET
2	57	AADS	AUTONOMOUS ATT DET SYSTEM
2	58	AADSIM	AUTOMATED ORBIT DET SYS
2	59	AADSEST	AUTOMATED ORBIT DET SYS
2	60	GEDAP	GPS EXPERIMENT DATA PREPRO
2	61	RADMAS	RESEARCH & DEVELOPMENT MISSION ANAL

Figure 2-47. Encoding Dictionary File Report Program (DBRPTENC) Output (2 of 10)

ENCODING DICTIONARY (ENCODE HDR)

TYPE	CODE	NAME	REST
2	62	GLI	GPSPAC LANDSAT-D INTERFACES
2	63	DARES	DATA BASE RETRIEVAL SYSTEM
2	64	DERBY	ERBS DYNAMIC SIMULATOR
2	66	FDRS	FLIGHT DYNAMICS RESEARCH SYSTEM
2	67	ERBS	EARTH RADIATION BUDGET SATELLITE
3	1	S/360	
3	2	PDP-11	
4	1	UNIT	UNIT TEST
4	2	SYSTEM	SYSTEM TEST
4	3	BENCHMARK	BENCHMARK TEST
4	4	MAINTUTL	MAINTENANCE/UTILITY
4	5	COMPASLNK	COMPILE/ASSEMBLY/LINK
4	6	DEBUGRUN	DEBUG RUN
4	7	OTHER	OTHER
5	1	GOODRUN	GOOD RUN
5	2	SUBMIT	SUBMIT ERROR
5	3	UCLERROR	UCL ERROR
5	4	OTHERSET	OTHER SETUP ERROR
5	5	HWERROR	HARDWARE ERROR
5	6	SWERROR	SOFTWARE ERROR
5	7	COMPILE	COMPILE ERROR
5	8	LINKERR	LINK ERROR
5	9	EXECUTE	EXECUTE ERROR
5	A	USERMSG	USER GENERATED MESSAGE
5	B	RANTOEND	RAN TO COMPLETION
6	1	VERYPREC	VERY PRECISE
6	2	PRECISE	PRECISE
6	3	IMPRECIS	IMPRECISE
7	1	IOPROCES	I/O PROCESSING
7	2	ALGORITH	ALGORITHMIC
7	3	LOGICNTL	LOGIC CONTROL
7	4	SYSRELAT	SYSTEMS RELATED
7	5	DATCOMBL	DATA/COMMON BLOCK
7	6	OTHER	OTHER
8	1	LOWLEVEL	INSERTED AT LOWER LEVEL
8	2	DRIVEINT	ADDED AS A DRIVER OR INTERFACE
8	3	REDESIGN	REDESIGN OF EXISTING COMPONENTS
8	4	RENAME	RENAMING OF EXISTING COMPONENT
8	5	REGROUP	REGROUPING OF EXISTING MATERIAL
8	6	OTHER	OTHER
9	1	ERRCORR	ERROR CORRECTION

Figure 2-47. Encoding Dictionary File Report Program (DPRPTENC) Output (3 of 10)

ENCODING DICTIONARY (ENCODE.HDR)

TYPE	CODE	NAME	REST
9	2	ENHANCE	PLANNED ENHANCEMENT
9	3	REQMNTS	IMPLEMENTATION OF REQUIREMENTS CHANGE
9	4	IMPCMD	IMPROVEMENT OF CLARITY/MAINTAINABILITY/DOC
9	5	IMPSERVE	IMPROVEMENT OF USER SERVICE
9	6	UTDEV	UTILITY FOR DEVELOPMENT PURPOSES ONLY
9	7	OPTIMISA	OPTIMIZATION OF TIME/SPACE/ACCURACY
9	8	ADAPT	ADAPTATION TO ENVIRONMENT CHANGE
9	9	OTHER	OTHER
10	1	FORTTRAN	
10	2	ALC	
11	1	COMP	COMPONENT
11	2	SUBCOMP	SUBCOMPONENT
11	3	BLOCKSEG	BASIC BLOCK SEGMENT
11	4	STMT	STATEMENT
11	5	OTHER	OTHER
12	1	1HRLESS	1 HOUR OR LESS
12	2	1HR1DAY	1 HOUR TO 1 DAY
12	3	1DAY3DAY	1 DAY TO 3 DAYS
12	4	MORE3DAY	MORE THAN 3 DAYS
13	1	ERRCORR	ERROR CORRECTION
13	2	ENHANCE	PLANNED ENHANCEMENT
13	3	REQMNTS	IMPLEMENTATION OF REQUIREMENTS CHANGE
13	4	IMPCMD	IMPROVEMENT OF CLARITY/MAINTAINABILITY/DOC
13	5	IMPSERVE	IMPROVEMENT OF USER SERVICE
13	6	UTDEV	UTILITY FOR DEVELOPMENT PURPOSES ONLY
13	7	OPTIMISA	OPTIMIZATION OF TIME/SPACE/ACCURACY
13	8	ADAPT	ADAPTATION TO ENVIRONMENT CHANGE
13	9	OTHER	OTHER
14	1	REQMNTS	REQUIREMENTS INCORRECT OR MISINTERPRETED
14	2	FUNCSPEC	FUNCTIONAL SPECIFICATIONS INCORRECT OR MISIN
14	3	SEVCOMPS	DESIGN ERROR, INVOLVING SEVERAL COMPONENTS
14	4	ONECOMP	ERROR IN THE DESIGN OR IMPLEMENTATION OF 1 C
14	5	ENVIRON	MISUNDERSTANDING OF EXTERNAL ENVIRONMENT
14	6	LANGUAGE	ERROR IN USE OF PROGRAMMING LANGUAGE/COMPILE
14	7	CLERICAL	CLERICAL ERROR
14	8	OTHER	OTHER
15	1	REQMNTS	REQUIREMENTS
15	2	FUNCSPEC	FUNCTIONAL SPECS
15	3	DESIGN	DESIGN
15	4	CODETEST	CODING AND TEST
15	5	OTHER	OTHER

Figure 2-47. Encoding Dictionary File Report Program (DBRPTENC) output (4 of 10)

TYPE	CODE	NAME	REST
15	6	CANTTELL	CAN'T TELL
16	1	PREACC	PRE-ACCEPTANCE TEST RUNS
16	2	ACCTEST	ACCEPTANCE TESTING
16	3	POSTACC	POST-ACCEPTANCE USE
16	4	INSPECT	INSPECTION OF OUTPUT
16	5	RODPRGR	CODE READING BY PROGRAMMER
16	6	RODTHR	CODE READING BY OTHER PERSON
16	7	TALKS	TALKS WITH OTHER PROGRAMMERS
16	8	SPECIAL	SPECIAL DEBUG CODE
16	9	SYSTEM	SYSTEM ERROR MESSAGES
16	A	PROJSPEC	PROJECT SPECIFIC ERROR MESSAGES
16	B	READDOC	READING DOCUMENTATION
16	C	TRACE	TRACE
16	D	DUMP	DUMP
16	E	XREF	CROSS-REFERENCE/ATTRIBUTE LIST
16	F	PFTech	PROOF TECHNIQUE
16	G	OTHER	OTHER
17	1	1HRLESS	ONE HOUR OR LESS
17	2	1HRTDAY	ONE HOUR TO ONE DAY
17	3	MORETDAY	MORE THAN ONE DAY
17	4	NEVERFND	NEVER FOUND
18	1	NEW	NEW CODE
18	2	EXTENSIV	EXTENSIVELY MOD OLD CODE-COUNTED AS NEW
18	3	SLIGHT	SLIGHTLY MODIFIED OLD CODE-COUNTED 20%
18	4	OLD	EXACT COPY OF OLD CODE-COUNTED 20%
19	1	EXEC	EXECUTIVE
19	2	SCH	SCHEDULER
19	3	TP2	TELEMETRY PROCESSOR
19	4	TPP	TELEMETRY PROCESSING
19	5	THSK	TELEMETRY PREPROCESSING
19	6	THSK	TELEMETRY HOUSEKEEPING
19	7	DA	DATA ADJUSTMENT
19	8	DV	DATA VERIFICATION
19	9	DP	DATA PREPROCESSING
19	10	ATTDET	ATTITUDE DETERMINISTIC
19	11	ATTDC	ATTITUDE DC
19	12	ATTRECUR	ATTITUDE RECURSIVE
19	13	ATTAZ	ATTITUDE A21MUTH
19	14	ATTPLT	ATTITUDE PREDICTION/GRAPHICS
19	15	ATTCONTL	ATTITUDE PREDICTION/CONTROL
19	16	ATTMON	ATTITUDE MONITOR
19	17	ATLS	ATTITUDE-LEAST SQUARES
19	18	BIASDET	BIAS DET
19	19	BIASCAL	BIAS CALIBRATION
19	20	EXTRA20	

Figure 2-47. Encoding Dictionary File Report Program (DBRPTENC) Output (5 of 10)

ENCODING DICTIONARY (ENCODE HDR)

TYPE	CODE	NAME	REST
19	21	GEOMPRE	GEOMETRY PREDICTION
19	22	GEOMACO	GEOMETRY ACQUISITION
19	23	GEOMPRED	GEOMETRY PREDICTOR
19	24	DEFLOG	DEFINITIVE LOGGING
19	25	DEFSMOOTH	DEFINITIVE SMOOTHING
19	26	DEFTRANS	DEFINITIVE TRANSMISSION
19	27	EXTRA27	
19	28	REPDS	REPORT - DATA SET
19	29	REPCMD	REPORT - COMMANDS
19	30	REPTAB	REPORT - TABLES
19	31	UMATH	UTILITY - MATH
19	32	USYSTEM	UTILITY - SYSTEM
19	33	UDS	UTILITY - DATA BASE
19	34	SIMTLM	SIMULATOR-TELEMETRY
19	35	SINENG	SIMULATOR-ENGINEERING
19	36	SIMIN	SIMULATOR-INPUT
19	37	SIMOUT	SIMULATOR-OUTPUT
19	38	SIMSEN	SIMULATOR-SENSORS
19	39	SINDYN	SIMULATOR-DYNAMICS
19	40	SYSTEM	SYSTEM
20	1	INCLUDE	INCLUDE STATEMENTS
20	2	CONTROL	CONTROL STATEMENTS (JCL, OVERLAY)
20	3	SYSTEM	SYSTEM STATEMENTS (ALC)
20	4	GESS	GRAPHICS STATEMENTS (GESS)
20	5	DATA	DATA STATEMENTS
20	7	COR	FORTAN CONTROL/DRIVER MODULE
20	8	CCOMP	FORTAN CONTROL/COMPUTATIONAL STATEMENTS
20	9	DTRANS	FORTAN DATA TRANSFER MODULE
20	10	IO	FORTAN INPUT/OUTPUT MODULE
20	17	IOCDR	FORTAN CONTROL/DRIVER MODULE WITH I/O
20	18	IOCCOMP	FORTAN CONTROL/COMPUTATIONAL MODULE W/ I/O
20	19	IODTRANS	FORTAN DATA TRANSFER MODULE WITH I/O
21	2222	QTHSUPP	OTHER SUPPORT
21	3333	OVERTIME	OVERTIME
21	4444	TYPING	TYPING
21	5555	TECHPUBS	TECHPUBS
21	6666	SECRETARY	SECRETARY
21	7777	LIBRARIAN	LIBRARIAN
21	8888	PROGMENT	PROGRAM MANAGEMENT
21	9999	CPIRTECH	COMPUTER TECHNICIAN
22	1	ANY360	ANY IBM 360
22	2	ANYPOP	ANY PDP
22	3	360-75	IBM S/360-75
22	4	360-75C1	IBM S/360-75 C1
22	5	360-91	IBM S/360-91
22	6	360-95	IBM S/360-95
22	7	PDP11-70	PDP 11/70

Figure 2-47. Encoding Dictionary File Report Program (DBRPTENC) Output (6 of 10)

ENCODING DICTIONARY (ENCODE.HDR)

TYPE	CODE	NAME	REST
22	8	VAX	VAX-11
22	9	INT-8086	INTEL-8086 MICROPROCESSOR
22	10	LSI11/70	LSI-11/70 MICROPROCESSOR
23	1	BAKER	BAKER
23	2	GARLAND	GARLAND
23	3	WELCH	WELCH
23	4	GBROWN	G. BROWN
23	5	SCHWENK	SCHWENK
23	6	TAYLOR	TAYLOR
23	7	BANKS	BANKS
23	8	PHENNEGE	PHENNEGE
23	9	ONG	ONG
23	10	STENGLE	STENGLE
23	11	TRAHAN	TRAHAN
23	12	BAGINSKI	BAGINSKI
23	13	WHITE	WHITE
23	14	DANIELS	DANIELS
23	15	NADELMAN	NADELMAN
23	16	WERKING	WERKING
23	17	DATLA	DATLA
23	18	HEMPEL	HEMPEL
23	19	JUN	JUN
23	20	SOOD	SOOD
23	21	ROBERTS	ROBERTS
23	22	GAMBARDE	GAMBARDELLA
23	23	HAYES	HAYES
23	24	MCKENDREW	MCKENDREW
23	25	ROYSTER	ROYSTER
23	26	SUDDITH	SUDDITH
23	27	MERWARTH	MERWARTH
23	28	COOK	COOK
23	29	SNOW	SNOW
23	30	STARK	STARK
23	31	MOWERY	MOWERY
23	32	EFANG	E. FANG
23	33	WANG	WANG
23	34	HEUBERGE	HEUBERGE
23	35	OTKAWA	OTKAWA
23	36	RAY	RAY
23	37	SHUSTER	SHUSTER
23	38	RAO	RAO
23	39	MYERS	MYERS
23	40	KLITSCH	KLITSCH
23	41	VCHURCH	V. CHURCH
23	42	HEADRICK	HEADRICK
23	43	FRY	FRY
23	44	PRUSIEWICZ	PRUSIEWICZ
23	45	DUNHAM	DUNHAM
23	46	STIELSKI	STIELSKI
23	47	MCINTOSH	MCINTOSH
23	48	WALLACE	WALLACE

Figure 2-47. Encoding Dictionary File Report Program (DBRPTENC) Output (7 of 10)

ENCODING DICTIONARY (ENCODE HDR)

REST

TYPE	CODE	NAME	
23	49	CAPILLAR	CAPILLARY
23	50	HUGHES	HUGHES
23	51	FRENKEL	FRENKEL
23	52	B. FANG	B. FANG
23	53	PREISS	PREISS
23	54	EDWARDS	EDWARDS
23	55	ESLINGER	ESLINGER
23	56	DECKER	DECKER
23	57	STRANG	STRANG
23	58	BEHUNCIK	BEHUNCIK
23	59	RAJAN	RAJAN
23	60	JOHNSON	JOHNSON
23	61	HARTMAN	HARTMAN
23	62	GORMLEY	GORMLEY
23	63	GARRAHAN	GARRAHAN
23	64	SAGGARE	SAGGARE
23	65	L. CHURCH	L. CHURCH
23	66	BUCKLEY	BUCKLEY
23	67	GILL	GILL
23	68	ROHLEDER	ROHLEDER
23	1110	W. WAGNER	W. WAGNER
23	1111	13516	(EQUAL)
23	1112	ERICKSON	ERICKSON
23	1113	TRUEBLOOD	TRUEBLOOD
23	1114	NICOTRA	NICOTRA
23	1115	KING	KING
23	1116	BLANK	BLANK
23	1118	DEMOTT	DEMOTT
23	1119	ANDERSON	ANDERSON
23	1120	LUCZAK	LUCZAK
23	1121	LARSEN	LARSEN
23	1122	WATSON	W. WATSON
23	1123	NICKERSON	NICKERSON
23	1124	WILBERG	WILBERG
23	1125	MAJOR	MAJOR
23	2731	FALLON	FALLON
23	3142	BERG	BERG
23	4561	PINKSTON	PINKSTON
23	5319	DEPRIEST	DEPRIEST
23	8642	KUTCHER	KUTCHER
23	8912	TASAKI	TASAKI
23	10023	SCHULTHEISS	SCHULTHEISS
23	10273	GOOREVICH	GOOREVICH
23	10542	GREEN	GREEN
23	11223	KNOWLES	KNOWLES
23	11322	COLATZCI	COLATZCI
23	11402	WALIGORA	WALIGORA
23	12041	SNYDER	SNYDER
23	12231	STURCH	STURCH
23	12273	13579	(EQUAL)
23	12345	KARAHISA	KARAHISA
23	12355	HOLLINGS	HOLLINGSWORTH
23	12372	TWAGNER	T. WAGNER

Figure 2-47. Encoding Dictionary File Report Program (DBRPTENC) Output (8 of 10)

ENCODING DICTIONARY (ENCODE HDR)

REST

TYPE	CODE	NAME	NAME
23	12389	HAVERKOS	HAVERKOS
23	12450	LYNCH	LYNCH
23	12533	LO	LO
23	12732	SMITH	SMITH
23	12789	PLETT	PLETT
23	13200	BYRNE	BYRNE
23	13215	SARALKAR	SARALKAR
23	13221	PAJERSKI	PAJERSKI
23	13456	CHEUVRON	CHEUVRON
23	13516	LIU	LIU
23	13579	BALDRIDGE	BALDRIDGE
23	13589	WILLIAMS	WILLIAMS
23	13765	EISERIKE	EISERIKE
23	14021	LU	LU
23	14321	JOSEPH	JOSEPH
23	14336	HOVEN	HOVEN
23	14672	CAMILLO	CAMILLO
23	14679	STARR	STARR
23	15346	HELLICKS	HELLICKSON
23	15352	BIRCH	BIRCH
23	16433	JONES	JONES
23	16540	WOOD	WOOD
23	16734	STECKSCH	STECKSCHULTE
23	16802	STEWART	STEWART
23	18024	PAGE	PAGE
23	18913	WHISTLER	WHISTLER
23	19567	TODD	TODD
23	19753	WHITAKER	WHITAKER
23	19832	DIXON	DIXON
23	19853	DAVENPOR	DAVENPORT
23	19872	CHU	CHU
23	20013	NEAL	NEAL
23	20137	NACIOS	NACIOS
23	20314	CAPPELLA	CAPPELLARI
23	20411	SPENCE	SPENCE
23	20413	SPEARS	SPEARS
23	20445	FOUSE	FOUSE
23	20864	FRANTZ	FRANTZ
23	21054	MONGELLU	MONGELLUZZO
23	21140	LEGG	LEGG
23	21234	GRONDALS	GRONDALSKI
23	21335	CARD	CARD
23	21372	MASON	MASON
23	21402	HOOVER	HOOVER
23	21983	SWATSON	S. WATSON
23	21987	BEIGE	BEIGE
23	22086	MCGARRY	MCGARRY
23	22137	LINDBOE	LINDBOE
23	22311	SHENITZ	SHENITZ
23	22731	FLEMING	FLEMING
23	23100	ONEILL	ONEILL
23	23197	PALAZZO	PALAZZO
23	23721	RABBIN	RABBIN

Figure 2-47. Encoding Dictionary File Report Program (DBRPTENC) Output (9 of 10)

ENCODING DICTIONARY (ENCODE.HDR)

TYPE	CODE	NAME	REST
23	23891	FUCHS	FUCHS
23	24130	SHEAR	SHEAR
23	24405	HENDRICK	HENDRICK
23	24501	HOLDIP	HOLDIP
23	24680	O1110	(EQUAL)
23	25044	KWON	KWON
23	25123	NELSON	NELSON
23	25164	WILSON	WILSON
23	25331	RUMORE	RUMORE
23	26543	VBROWN	V. BROWN
23	27310	HYMAN	HYMAN
23	27651	NIBLACK	NIBLACK
23	27659	LEFFERTS	LEFFERTS
23	27891	WRIGHT	WRIGHT
23	31002	O1123	(EQUAL)
23	31027	23721	(EQUAL)
23	31436	HOLMES	HOLMES
23	31975	SAENZ	SAENZ
23	31985	WALTER	WALTER
23	32001	BEARD	BEARD
23	32127	NEWMAN	NEWMAN
23	32154	CROWLEY	CROWLEY
23	32211	WYCKOFF	WYCKOFF
24	1	NONE	NONE, NOT USED
24	2	MINIMAL	MINIMAL, SELDOM
24	3	PARTIAL	PARTIALLY, SOMETIMES
24	4	MAJORITY	MAJORITY, OFTEN
24	5	MOSTLY	MOSTLY, USUALLY
24	6	FULLY	FULLY, COMPLETELY, ALWAYS

Figure 2-47. Encoding Dictionary File Report Program (DBRPTENC) Program (10 of 10)

2.16 PHASE DATES FILE LISTING PROCEDURE (DBRPTHDR)

2.16.1 INTRODUCTION

2.16.1.1 Function and Purpose

The Phase Dates File Listing Procedure (DBRPTHDR) produces a listing of the contents of the HDR file by using DATATRIEVE. It is used to monitor the SEL data base.

2.16.1.2 System Resources

The DBRPTHDR procedure is a DATATRIEVE command file that is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a disk, and a lineprinter. The terminal acts as an output message device. Input to the procedure consists of the HDR file that is stored on disk and is on line to the PDP-11/70. The output listing is stored on disk by the DBRPTHDR procedure and may be directed to the lineprinter by the user after the procedure terminates.

2.16.1.3 Approximate Run Time

The normal execution time of the DBRPTHDR procedure depends on the size of the HDR file. Approximately 32 seconds (wall-clock time) are required to run the procedure on the current size of the HDR file (49 records).

2.16.2 PROCEDURE INVOCATION

To execute the DBRPTHDR procedure, the user enters the following command on the user's terminal:

```
DTR @[204,4]DBRPTHDR.DTR
```

2.16.3 PROCEDURE OPERATION

After the user invokes the DBRPTHDR procedure, DATATRIEVE will echo each DATATRIEVE command on the file [204,4]DBRPTHDR.DTR to the user's terminal. After execution is completed, a message, YOUR REPORT IS ON FILE

'HDR.RPT', will be displayed on the user's terminal. The user may then print this listing by using the PRINT command; for example

```
PRINT HDR.RPT
```

2.16.4 SAMPLE OUTPUT

Figure 2-48 is a sample output listing of the current HDR file. There is one record for each project, which contains the dates of the different phases for the given project.

PROJECT	DESIGN START DATE	CODE & UNIT TEST START DATE	SYSTEM TEST START DATE	ACCEPTANCE TEST START DATE	CLEANUP START DATE	CLEANUP END DATE
AADS	810530	810905	820130	820403	820626	820925
AADSIM	810704	810829	820213	820320	820501	820717
AEM	770213	770604	771203	780204	780318	780429
AODS	800531	801213	811003	820227	820703	820814
AODSEST	810131	810620	811107	820227	820703	820814
AVG	770115	770301	770501			
DARES	820618	820731				
DBAM	790801	791015	800615			
DEA	791001	800510	810228	810328	810613	810718
DEB	791001	800510	801212	810221	810502	810627
DECAP	800201	800615	801115	810215	810515	810801
DEDET	791201	800517	810117	810214	810411	810516
DEFULL	791001	800517	810124	810221	810613	810718
DERBY	820701					
DESERV	800101	800912	801010	810202	810601	810731
DESIM	791001	800412	800830	800927	801025	801129
DETRAN	800701	800912	810101	810126	810214	810731
ERBS	820601					
FDRS	820701					
FINREP	771007	771029	771203	780128	780204	791101
FLTRGAIN	780901	781001	790101	790301	790601	790630
FOCS	790203	790526	790804	790901	791013	791212
FOXPP	790203	790621	790818	790901	791013	791222
FOXPRO	790203	790526	790804	790901	791013	791222
GEDAP	810228	810530	811003	820102	820626	820710
GESS	760401	760703	770924	780301		
GLI	810207	810502	811003	820403	821002	821225
GMAS	750301	750705	770101	770528	770730	820106
GSOC	780501	790203	790519	790714	790818	791222
ISEEB	761001	770226	770723	770820	770917	780107
ISEEC	770815	771203	780311	780408	780506	780624
MAGASP	790407	790616	790714	790728	790811	791208
MAGBIAS	771018	771203	780121	780318	780325	780630
MAGCP	780601	781014	790630	790721	790811	791208
MAGDOG	790113	790302	790602	790630	790811	791208
MAGINT	780601	781014	790331	790602	790811	791208
MAGIRC	780601	781014	790602	790630	790811	791208
MAGLOG	780601	780930	790331	790602	790811	791208
MAGNRT	780601	781014	790331	790602	790811	791208
MAGSAT	780601	781014	790331	790602	790811	791208
MAGTP	780601	780930	790331	790602	790811	791208
MARS	770613	780317	770917	771015	780317	
NPP	771007	771105	780114	780204	780530	
PAS	760601	761009	770521	770723	770924	780107
RADMAS	800329	810103	811003	820130		
SAP	770601	770716	770924	771217	771224	780201
SEASAT	770401	770730	780114	780218	780415	780624
SMM	780501	781014	790331	790602	791013	791222
SMMFULL	780501	781014	790331	790602	791013	791222

Figure 2-48. Phase Dates File Report Program
(DBRPTHDR) Output

2.17 FILE NAME AND STATUS FILE LISTING PROCEDURE (DBRPTSTS)

2.17.1 INTRODUCTION

2.17.1.1 Function and Purpose

The File Name and Status File Listing Procedure (DBRPTSTS) produces a listing of the contents of the (STS) file by using DATATRIEVE. It is used to monitor the SEL data base.

2.17.1.2 System Resources

The DBRPTSTS procedure is a DATATRIEVE command file that is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a disk, and a lineprinter. The terminal acts as an output message device. Input to the procedure consists of the STS file that is stored on disk and is on line to the PDP-11/70. The output listing is stored on disk by the DBRPTSTS procedure and may be directed to the lineprinter by the user after the procedure terminates.

2.17.1.3 Approximate Run Time

The normal execution time of the DBRPTSTS procedure depends on the size of the STS file. Approximately 47 seconds (wall-clock time) are required to run the procedure on the current size of the STS file (302 records).

2.17.2 PROCEDURE INVOCATION

To execute the DBRPTSTS procedure, the user enters the following command on the user's terminal:

```
DTR @[204,4]DBRPTSTS.DTR
```

2.17.3 PROCEDURE OPERATION

After the user invokes the DBRPTSTS procedure, DATATRIEVE will echo each DATATRIEVE command on the file [204,4]DBRPTSTS.DTR to the user's terminal. After execution is completed, a message, YOUR REPORT IS ON FILE 'STAT.RPT',

will be displayed on the user's terminal. The user may then print this file by using the PRINT command; for example

```
PRINT STAT.RPT
```

2.17.4 SAMPLE OUTPUT

Figure 2-49 is a sample output listing of the STS file. The header files are given at the top of the listing, followed by the files for each project in the SEL data base.

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PROJECT =	PROJ	FILE	NAME	CREATE	BACKUP	UPDATE	NREC		
PROJECT =			DB1:[204,1]ENCODE.HDR	790212	820611	820722	462		
		1	DB1:[204,1]STAT.HDR	790805	820611	790805	287		
		2	DB1:[204,1]HEADER.HDR	790804	820611	790804	45		
		3	DB1:[204,1]EST.HDR	790804	820611	790804	45		
PROJECT =	1	4	DB1:[204,1]GESS.CIF	790222	820611	790222	191		
		5	DB1:[204,1]GESS.RAF	790205	820611	820727	224		
		6	DB1:[204,1]GESS.CSR	790205	820611	810821	392		
		7	DB1:[204,1]GESS.CSF	790901	820611	800228	121		
		8	DB1:[204,1]GESS.RSF	790312	820611	790312			
		9	DB1:[204,1]GESS.CRF	790901	820611	810819			
		10	DB1:[204,1]GESS.CMT	781226	820611	820727	146		
		11	DB1:[204,1]GESS.HIS	0	820611	0			
		PROJECT =	2	4	DB1:[204,1]AEM.CIF	790222	820611	820608	336
				5	DB1:[204,1]AEM.RAF	790205	820611	820722	1164
				6	DB1:[204,1]AEM.CSR	790205	820611	820614	1528
7	DB1:[204,1]AEM.CSF			790116	820611	820217	225		
PROJECT =	3	8	DB1:[204,1]AEM.RSF	790312	820611	790312	92		
		9	DB1:[204,1]AEM.CRF	790115	820611	820713	287		
		10	DB1:[204,1]AEM.CMT	781226	820611	820722	618		
		11	DB1:[204,1]AEM.HIS	000000	820611	810724	42		
		12	DB1:[204,1]AEM.ACC	810504	820611	810518	955		
		PROJECT =	5	4	DB1:[204,1]MARS.CIF	790222	820611	810401	49
				5	DB1:[204,1]MARS.RAF	790205	820611	810819	
				6	DB1:[204,1]MARS.CSR	790205	820611	800411	138
				7	DB1:[204,1]MARS.CSF	790116	820611	810819	
				8	DB1:[204,1]MARS.RSF	790312	820611	790312	
				9	DB1:[204,1]MARS.CRF	790115	820611	790115	
10	DB1:[204,1]MARS.CMT			781226	820611	810819			
11	DB1:[204,1]MARS.HIS			0	820611	0			
PROJECT =	6			4	DB1:[204,1]ISEEB.CIF	790222	820611	820518	376
				5	DB1:[204,1]ISEEB.RAF	790205	820611	820525	2018
				6	DB1:[204,1]ISEEB.CSR	790205	820611	820723	1027
		7	DB1:[204,1]ISEEB.CSF	790116	820611	790116	126		
		8	DB1:[204,1]ISEEB.RSF	790312	820611	790312	99		
		9	DB1:[204,1]ISEEB.CRF	790115	820611	800228	311		
		10	DB1:[204,1]ISEEB.CMT	781226	820611	820525	1064		
		11	DB1:[204,1]ISEEB.HIS	0	820611	810714	36		
		12	DB1:[204,1]ISEEB.ACC	810504	820611	810518	1002		
		PROJECT =	6	4	DB1:[204,1]PAS.CIF	790222	820611	820721	612

Figure 2-49. File Name and Status File Report Program (DBRPTSTS) Output (1 of 8)

DIRECTORY FILE - STAT.DAT

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PROJ	FILE	NAME	CREATE	BACKUP	UPDATE	NREC
	5	DB1:[204,1]PAS.RAF	790205	820611	810819	1877
	6	DB1:[204,1]PAS.CSR	790205	820611	820722	1976
	7	DB1:[204,1]PAS.CSF	790901	820611	800228	175
	8	DB1:[204,1]PAS.RSF	790312	820611	790312	121
	9	DB1:[204,1]PAS.CRF	790115	820611	820708	491
	10	DB1:[204,1]PAS.CMT	780126	820611	790115	1119
	11	DB1:[204,1]PAS.HIS	0	820611	810727	53
	12	DB1:[204,1]PAS.ACC	810504	820611	810519	531
PROJECT =	7					
	4	DB1:[204,1]MAGBIAS.CIF	790222	820611	820708	40
	5	DB1:[204,1]MAGBIAS.RAF	790205	820611	810819	186
	6	DB1:[204,1]MAGBIAS.CSR	790205	820611	810821	153
	7	DB1:[204,1]MAGBIAS.CSF	790116	820611	790116	55
	8	DB1:[204,1]MAGBIAS.RSF	790312	820611	790312	11
	9	DB1:[204,1]MAGBIAS.CRF	790115	820611	820525	50
	10	DB1:[204,1]MAGBIAS.CMT	781226	820611	790116	217
	11	DB1:[204,1]MAGBIAS.HIS	0	820611	0	
PROJECT =	8					
	4	DB1:[204,1]ISEEC.CIF	790222	820611	820526	478
	5	DB1:[204,1]ISEEC.RAF	790205	820611	820526	992
	6	DB1:[204,1]ISEEC.CSR	790205	820611	820716	663
	7	DB1:[204,1]ISEEC.CSF	790116	820611	820517	316
	8	DB1:[204,1]ISEEC.RSF	790312	820611	790312	60
	9	DB1:[204,1]ISEEC.CRF	790115	820611	810721	240
	10	DB1:[204,1]ISEEC.CMT	781226	820611	820526	823
	11	DB1:[204,1]ISEEC.HIS	0	820611	810725	25
	12	DB1:[204,1]ISEEC.ACC	810504	820611	810518	527
PROJECT =	9					
	4	DB1:[204,1]AVG.CIF	790222	820611	820614	49
	5	DB1:[204,1]AVG.RAF	790205	820611	810902	403
	6	DB1:[204,1]AVG.CSR	790205	820611	820614	421
	7	DB1:[204,1]AVG.CSF	790901	820611	800228	22
	8	DB1:[204,1]AVG.RSF	790901	820611	0	
	9	DB1:[204,1]AVG.CRF	790901	820611	0	
	10	DB1:[204,1]AVG.CMT	781226	820611	810902	165
	11	DB1:[204,1]AVG.HIS	0	820611	0	
PROJECT =	10					
	4	DB1:[204,1]SEASAT.CIF	790222	820611	820727	702
	5	DB1:[204,1]SEASAT.RAF	790205	820611	810821	1312
	6	DB1:[204,1]SEASAT.CSR	790205	820611	820727	1165
	7	DB1:[204,1]SEASAT.CSF	790116	820611	820517	295
	8	DB1:[204,1]SEASAT.RSF	790312	820611	790312	91
	9	DB1:[204,1]SEASAT.CRF	790115	820611	820520	46
	10	DB1:[204,1]SEASAT.CMT	781226	820611	820517	423
	11	DB1:[204,1]SEASAT.HIS	0	820611	810727	34

Figure 2-49. File Name and Status File Report Program (DBRPTSTS) Output (2 of 8)

DIRECTORY FILE - STAT.DAT

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	PROJ	FILE	NAME	CREATE	BACKUP	UPDATE	NREC
		12	DB1:[204,1]SEASAT.ACC	810504	820611	810519	974
PROJECT =	13						
		4	DB1:[204,1]NPP.CIF	790222	820611	790222	53
		5	DB1:[204,1]NPP.RAF	790901	820611	810818	
		6	DB1:[204,1]NPP.CSR	790205	820611	820714	78
		7	DB1:[204,1]NPP.CSF	790116	820611	810818	
		8	DB1:[204,1]NPP.RSF	790312	820611	790312	
		9	DB1:[204,1]NPP.CRF	790115	820611	810818	
		10	DB1:[204,1]NPP.CMT	790115	820611	810818	
		11	DB1:[204,1]NPP.HIS	0	820611	0	
PROJECT =	15						
		4	DB1:[204,1]SAP.CIF	790222	820611	820714	87
		5	DB1:[204,1]SAP.RAF	790423	820611	810819	58
		6	DB1:[204,1]SAP.CSR	790205	820611	820714	154
		7	DB1:[204,1]SAP.CSF	790901	820611	810819	
		8	DB1:[204,1]SAP.RSF	790312	820611	790312	
		9	DB1:[204,1]SAP.CRF	790115	820611	810819	
		10	DB1:[204,1]SAP.CMT	790115	820611	810819	36
		11	DB1:[204,1]SAP.HIS	0	820611	810727	
PROJECT =	16						
		4	DB1:[204,1]FINREP.CIF	790222	820611	820609	16
		5	DB1:[204,1]FINREP.RAF	790901	820611	811019	
		6	DB1:[204,1]FINREP.CSR	790205	820611	820714	46
		7	DB1:[204,1]FINREP.CSF	790116	820611	820330	
		8	DB1:[204,1]FINREP.RSF	790312	820611	790312	
		9	DB1:[204,1]FINREP.CRF	790115	820611	811016	
		10	DB1:[204,1]FINREP.CMT	790115	820611	820330	
		11	DB1:[204,1]FINREP.HIS	0	820611	810402	
PROJECT =	19						
		4	DB1:[204,1]SMM.CIF	790901	820611	820726	706
		5	DB1:[204,1]SMM.RAF	790901	820611	820722	3172
		6	DB1:[204,1]SMM.CSR	790901	820611	820727	2250
		7	DB1:[204,1]SMM.CSF	790901	820611	820420	865
		8	DB1:[204,1]SMM.RSF	790901	820611	0	162
		9	DB1:[204,1]SMM.CRF	790901	820611	820713	710
		10	DB1:[204,1]SMM.CMT	790901	820611	820722	3073
		11	DB1:[204,1]SMM.HIS	0	820611	810727	53
		12	DB1:[204,1]SMM.ACC	810504	820611	810519	447
PROJECT =	20						
		4	DB1:[204,1]FLTRGAIN.CIF	790901	820611	0	28
		5	DB1:[204,1]FLTRGAIN.RAF	790901	820611	810818	74
		6	DB1:[204,1]FLTRGAIN.CSR	790901	820611	810820	224
		7	DB1:[204,1]FLTRGAIN.CSF	790901	820611	0	
		8	DB1:[204,1]FLTRGAIN.RSF	790901	820611	0	20

Figure 2-49. File Name and Status File Report Program (DBRPTSTS) Output (3 of 8)

DIRECTORY FILE - STAT.DAT

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PROJ	FILE	NAME	CREATE	BACKUP	UPDATE	NREC
	9	DB1:[204,1]FLTRGAIN.CRF	790901	820611	0	
	10	DB1:[204,1]FLTRGAIN.CMT	790901	820611	0	
	11	DB1:[204,1]FLTRGAIN.HIS	0	820611	0	
PROJECT =	21					
	4	DB1:[204,1]GMAS.CIF	790901	820611	820208	465
	5	DB1:[204,1]GMAS.RAF	790901	820611	820722	52
	6	DB1:[204,1]GMAS.CSR	790901	820611	810818	
	7	DB1:[204,1]GMAS.CSF	790901	820611	820706	
	8	DB1:[204,1]GMAS.RSF	790901	820611	820722	286
	9	DB1:[204,1]GMAS.CRF	790901	820611	820708	183
	10	DB1:[204,1]GMAS.CMT	790901	820611	820722	393
	11	DB1:[204,1]GMAS.HIS	0	820611	0	
PROJECT =	26					
	4	DB1:[204,1]MAGSAT.CIF	790901	820611	820726	900
	5	DB1:[204,1]MAGSAT.RAF	790901	820611	820409	2330
	6	DB1:[204,1]MAGSAT.CSR	790901	820611	820726	2425
	7	DB1:[204,1]MAGSAT.CSF	790901	820611	820709	542
	8	DB1:[204,1]MAGSAT.RSF	790901	820611	0	147
	9	DB1:[204,1]MAGSAT.CRF	790901	820611	820112	585
	10	DB1:[204,1]MAGSAT.CMT	790901	820611	820709	1574
	11	DB1:[204,1]MAGSAT.HIS	0	820611	810714	58
	12	DB1:[204,1]MAGSAT.ACC	810504	820611	810518	1121
PROJECT =	34					
	4	DB1:[204,1]FOXPP.CIF	791026	820611	820726	51
	5	DB1:[204,1]FOXPP.RAF	791026	820611	820303	2
	6	DB1:[204,1]FOXPP.CSR	791026	820611	820726	472
	7	DB1:[204,1]FOXPP.CSF	791026	820611	0	
	8	DB1:[204,1]FOXPP.RSF	791026	820611	0	20
	9	DB1:[204,1]FOXPP.CRF	791026	820611	0	
	10	DB1:[204,1]FOXPP.CMT	791026	820611	820303	
	11	DB1:[204,1]FOXPP.HIS	0	820611	0	
PROJECT =	35					
	4	DB1:[204,1]FOXPRO.CIF	791026	820611	820721	110
	5	DB1:[204,1]FOXPRO.RAF	791026	820611	820303	77
	6	DB1:[204,1]FOXPRO.CSR	791026	820611	820722	541
	7	DB1:[204,1]FOXPRO.CSF	791026	820611	0	
	8	DB1:[204,1]FOXPRO.RSF	791026	820611	0	63
	9	DB1:[204,1]FOXPRO.CRF	791026	820611	0	103
	10	DB1:[204,1]FOXPRO.CMT	791026	820611	820303	213
	11	DB1:[204,1]FOXPRO.HIS	0	820611	0	
PROJECT =	36					
	4	DB1:[204,1]DEA.CIF	791026	820611	820727	511
	5	DB1:[204,1]DEA.RAF	791026	820611	820721	5316
	6	DB1:[204,1]DEA.CSR	791026	820611	820727	5242

Figure 2-49. File Name and Status File Report Program (DBRPTSTS) Output (4 of 8)

DIRECTORY FILE - STAT.DAT

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PROJ	FILE	NAME	CREATE	BACKUP	UPDATE	NREC
	9	DB1:[204,1]FLTRGAIN.CRF	790901	820611	0	
	10	DB1:[204,1]FLTRGAIN.CMT	790901	820611	0	
	11	DB1:[204,1]FLTRGAIN.HIS	0	820611	0	
PROJECT =	21					
	4	DB1:[204,1]GMAS.CIF	790901	820611	820208	465
	5	DB1:[204,1]GMAS.RAF	790901	820611	820722	52
	6	DB1:[204,1]GMAS.CSR	790901	820611	810818	
	7	DB1:[204,1]GMAS.CSF	790901	820611	820706	
	8	DB1:[204,1]GMAS.RSF	790901	820611	820722	286
	9	DB1:[204,1]GMAS.CRF	790901	820611	820708	183
	10	DB1:[204,1]GMAS.CMT	790901	820611	820722	393
	11	DB1:[204,1]GMAS.HIS	0	820611	0	
PROJECT =	26					
	4	DB1:[204,1]MAGSAT.CIF	790901	820611	820726	900
	5	DB1:[204,1]MAGSAT.RAF	790901	820611	820409	2330
	6	DB1:[204,1]MAGSAT.CSR	790901	820611	820726	2425
	7	DB1:[204,1]MAGSAT.CSF	790901	820611	820709	542
	8	DB1:[204,1]MAGSAT.RSF	790901	820611	0	147
	9	DB1:[204,1]MAGSAT.CRF	790901	820611	820412	585
	10	DB1:[204,1]MAGSAT.CMT	790901	820611	820709	1574
	11	DB1:[204,1]MAGSAT.HIS	0	820611	810714	58
	12	DB1:[204,1]MAGSAT.ACC	810504	820611	810518	1121
PROJECT =	34					
	4	DB1:[204,1]FOXPP.CIF	791026	820611	820726	51
	5	DB1:[204,1]FOXPP.RAF	791026	820611	820303	2
	6	DB1:[204,1]FOXPP.CSR	791026	820611	820726	472
	7	DB1:[204,1]FOXPP.CSF	791026	820611	0	
	8	DB1:[204,1]FOXPP.RSF	791026	820611	0	20
	9	DB1:[204,1]FOXPP.CRF	791026	820611	0	
	10	DB1:[204,1]FOXPP.CMT	791026	820611	820303	
	11	DB1:[204,1]FOXPP.HIS	0	820611	0	
PROJECT =	35					
	4	DB1:[204,1]FOXPRO.CIF	791026	820611	820721	110
	5	DB1:[204,1]FOXPRO.RAF	791026	820611	820303	77
	6	DB1:[204,1]FOXPRO.CSR	791026	820611	820722	541
	7	DB1:[204,1]FOXPRO.CSF	791026	820611	0	
	8	DB1:[204,1]FOXPRO.RSF	791026	820611	0	63
	9	DB1:[204,1]FOXPRO.CRF	791026	820611	0	103
	10	DB1:[204,1]FOXPRO.CMT	791026	820611	820303	213
	11	DB1:[204,1]FOXPRO.HIS	0	820611	0	
PROJECT =	36					
	4	DB1:[204,1]DEA.CIF	791026	820611	820727	511
	5	DB1:[204,1]DEA.RAF	791026	820611	820721	5316
	6	DB1:[204,1]DEA.CSR	791026	820611	820727	5242

Figure 2-49. File Name and Status File Report Program
(DBRPTSTS) Output (4 of 8)

DIRECTORY FILE - STAT.DAT

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PROJ	FILE	NAME	CREATE	BACKUP	UPDATE	NREC
	7	DB1:[204,1]DEA.CSF	791026	820611	820727	388
	8	DB1:[204,1]DEA.RSF	791026	820611	820430	211
	9	DB1:[204,1]DEA.CRF	791026	820611	820519	964
	10	DB1:[204,1]DEA.CMT	791026	820611	820727	5218
	11	DB1:[204,1]DEA.HIS	0	820611	810727	63
	12	DB1:[204,1]DEA.ACC	810504	820611	820408	1472
PROJECT =	37					
	4	DB1:[204,1]DEB.CIF	791026	820611	820726	517
	5	DB1:[204,1]DEB.RAF	791026	820611	820727	9449
	6	DB1:[204,1]DEB.CSR	791026	820611	820726	5171
	7	DB1:[204,1]DEB.CSF	791026	820611	820727	360
	8	DB1:[204,1]DEB.RSF	791026	820611	0	216
	9	DB1:[204,1]DEB.CRF	791026	820611	820720	752
	10	DB1:[204,1]DEB.CMT	791026	820611	820727	5671
	11	DB1:[204,1]DEB.HIS	0	820611	810727	62
	12	DB1:[204,1]DEB.ACC	810504	820611	820408	1449
PROJECT =	38					
	4	DB1:[204,1]DESIM.CIF	791026	820611	820720	138
	5	DB1:[204,1]DESIM.RAF	791026	820611	810918	362
	6	DB1:[204,1]DESIM.CSR	791026	820611	820722	726
	7	DB1:[204,1]DESIM.CSF	791026	820611	820512	179
	8	DB1:[204,1]DESIM.RSF	791026	820611	0	93
	9	DB1:[204,1]DESIM.CRF	791026	820611	0	
	10	DB1:[204,1]DESIM.CMT	791026	820611	820512	290
	11	DB1:[204,1]DESIM.HIS	0	820611	810725	54
	12	DB1:[204,1]DESIM.ACC	810504	820611	820408	83
PROJECT =	39					
	4	DB1:[204,1]GSOC.CIF	791026	820611	820701	83
	5	DB1:[204,1]GSOC.RAF	791026	820611	820303	111
	6	DB1:[204,1]GSOC.CSR	791026	820611	820727	507
	7	DB1:[204,1]GSOC.CSF	791026	820611	820720	71
	8	DB1:[204,1]GSOC.RSF	791026	820611	0	110
	9	DB1:[204,1]GSOC.CRF	791026	820611	0	15
	10	DB1:[204,1]GSOC.CMT	791026	820611	820720	128
	11	DB1:[204,1]GSOC.HIS	0	820611	0	
PROJECT =	40					
	4	DB1:[204,1]DEDET.CIF	791026	820611	820720	214
	5	DB1:[204,1]DEDET.RAF	791026	820611	820722	1063
	6	DB1:[204,1]DEDET.CSR	791026	820611	820722	1335
	7	DB1:[204,1]DEDET.CSF	791026	820611	0	67
	8	DB1:[204,1]DEDET.RSF	791026	820611	0	145
	9	DB1:[204,1]DEDET.CRF	791026	820611	820527	230
	10	DB1:[204,1]DEDET.CMT	791026	820611	820722	1387
	11	DB1:[204,1]DEDET.HIS	0	820611	810725	52
	12	DB1:[204,1]DEDET.ACC	810504	820611	820408	274

Figure 2-49. File Name and Status File Report Program (DBRPTSTS) Output (5 of 8)

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PROJECT =	PROJ	FILE	NAME	CREATE	BACKUP	UPDATE	NREC
41	5	DB1:[204,1]DBAM.RAF	791026	820611	820503		
	6	DB1:[204,1]DBAM.CSR	791026	820611	820727	709	
	7	DB1:[204,1]DBAM.CSF	791026	820611	820517	161	
	8	DB1:[204,1]DBAM.RSF	791026	820611	0	22	
	9	DB1:[204,1]DBAM.CRF	791026	820611	820527	85	
	10	DB1:[204,1]DBAM.CMT	791026	820611	820517	326	
	11	DB1:[204,1]DBAM.HIS	0	820611	0		
42	4	DB1:[204,1]DECAP.CIF	810719	820611	820722	279	
	10	DB1:[204,1]DECAP.CMT	810719	820611	820722	34	
	9	DB1:[204,1]DECAP.CRF	810719	820611	0		
	7	DB1:[204,1]DECAP.CSF	810719	820611	810813	3	
	6	DB1:[204,1]DECAP.CSR	810719	820611	820716	321	
	5	DB1:[204,1]DECAP.RAF	810719	820611	820722	90	
	11	DB1:[204,1]DECAP.HIS	810719	820611	0		
43	8	DB1:[204,1]DECAP.RSF	810719	820611	0	79	
	4	DB1:[204,1]DESERV.CIF	810719	820611	820608	140	
	10	DB1:[204,1]DESERV.CMT	810719	820611	820722	422	
	9	DB1:[204,1]DESERV.CRF	810719	820611	820430		
	7	DB1:[204,1]DESERV.CSF	810719	820611	0		
	6	DB1:[204,1]DESERV.CSR	810719	820611	820128	601	
	11	DB1:[204,1]DESERV.HIS	810719	820611	0		
44	5	DB1:[204,1]DESERV.RAF	810719	820611	820722	794	
	8	DB1:[204,1]DESERV.RSF	810719	820611	0	31	
	4	DB1:[204,1]DETRAN.CIF	810719	820611	820106	67	
	10	DB1:[204,1]DETRAN.CMT	810719	820611	0		
	9	DB1:[204,1]DETRAN.CRF	810719	820611	0		
	7	DB1:[204,1]DETRAN.CSF	810719	820611	0		
	6	DB1:[204,1]DETRAN.CSR	810719	820611	0		
45	5	DB1:[204,1]DETRAN.RAF	810719	820611	810916		
	11	DB1:[204,1]DETRAN.HIS	810719	820611	0		
	8	DB1:[204,1]DETRAN.RSF	810719	820611	0	15	
	4	DB1:[204,1]AODS.CIF	810719	820611	820712	610	
	10	DB1:[204,1]AODS.CMT	810719	820611	820615	14	
	9	DB1:[204,1]AODS.CRF	810719	820611	820720	216	
	7	DB1:[204,1]AODS.CSF	810719	820611	820615	26	
45	6	DB1:[204,1]AODS.CSR	810719	820611	820721	4055	
	5	DB1:[204,1]AODS.RAF	810719	820611	811222		
	11	DB1:[204,1]AODS.HIS	810719	820611	820708	60	
	8	DB1:[204,1]AODS.RSF	810719	820611	820722	190	

Figure 2-49. File Name and Status File Report Program (DBRPTSTS) Output (6 of 8)

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	PROJ	FILE	NAME	CREATE	BACKUP	UPDATE	NREC
PROJECT =	57						
		4	DB1:[204,1]AADS.CIF	810714	820611	820726	132
		5	DB1:[204,1]AADS.RAF	810714	820611	820526	
		6	DB1:[204,1]AADS.CSR	810714	820611	820721	3241
		7	DB1:[204,1]AADS.CSF	810714	820611	820526	
		8	DB1:[204,1]AADS.RSF	810714	820611	820722	159
		9	DB1:[204,1]AADS.CRF	810714	820611	820727	129
		10	DB1:[204,1]AADS.CMT	810714	820611	820526	
		11	DB1:[204,1]AADS.HIS	810714	820611	820708	47
PROJECT =	58						
		4	DB1:[204,1]AADSIM.CIF	810714	820611	820713	243
		5	DB1:[204,1]AADSIM.RAF	810714	820611	820315	
		6	DB1:[204,1]AADSIM.CSR	810714	820611	820720	622
		7	DB1:[204,1]AADSIM.CSF	810714	820611	000000	
		8	DB1:[204,1]AADSIM.RSF	810714	820611	820722	50
		9	DB1:[204,1]AADSIM.CRF	810714	820611	820727	197
		10	DB1:[204,1]AADSIM.CMT	810714	820611	000000	91
		11	DB1:[204,1]AADSIM.HIS	810714	820611	820708	31
PROJECT =	59						
		4	DB1:[204,1]ADDSEST.CIF	810714	820611	811214	81
		5	DB1:[204,1]ADDSEST.RAF	810714	820611	811222	
		6	DB1:[204,1]ADDSEST.CSR	810714	820611	820721	196
		7	DB1:[204,1]ADDSEST.CSF	810714	820611	000000	
		8	DB1:[204,1]ADDSEST.RSF	810714	820611	820722	42
		9	DB1:[204,1]ADDSEST.CRF	810714	820611	820517	9
		10	DB1:[204,1]ADDSEST.CMT	810714	820611	000000	25
		11	DB1:[204,1]ADDSEST.HIS	810714	820611	820708	58
PROJECT =	60						
		4	DB1:[204,1]GEDAP.CIF	810714	820611	820625	67
		5	DB1:[204,1]GEDAP.RAF	810714	820611	820303	
		6	DB1:[204,1]GEDAP.CSR	810714	820611	820722	542
		7	DB1:[204,1]GEDAP.CSF	810714	820611	000000	
		8	DB1:[204,1]GEDAP.RSF	810714	820611	820722	32
		9	DB1:[204,1]GEDAP.CRF	810714	820611	820629	30
		10	DB1:[204,1]GEDAP.CMT	810714	820611	000000	58
		11	DB1:[204,1]GEDAP.HIS	810714	820611	820708	57
PROJECT =	61						
		4	DB1:[204,1]RADMAS.CIF	810714	820611	820505	831
		5	DB1:[204,1]RADMAS.RAF	810714	820611	820430	
		6	DB1:[204,1]RADMAS.CSR	810714	820611	820721	2456
		7	DB1:[204,1]RADMAS.CSF	810714	820611	820414	
		8	DB1:[204,1]RADMAS.RSF	810714	820611	820722	146
		9	DB1:[204,1]RADMAS.CRF	810714	820611	820720	69
		10	DB1:[204,1]RADMAS.CMT	810714	820611	820430	3

Figure 2-49. File Name and Status File Report Program (DBRPTSTS) Output (7 of 8)

DIRECTORY FILE - STAT.DAT

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	PROJ	FILE	NAME	CREATE	BACKUP	UPDATE	NREC
		11	DB1:[204,1]RADMAS.HIS	810714	820611	820708	59
PROJECT =	62						
		4	DB1:[204,1]GLI.CIF	810714	820611	820521	357
		5	DB1:[204,1]GLI.RAF	810714	820611	811222	
		6	DB1:[204,1]GLI.CSR	810714	820611	820727	915
		7	DB1:[204,1]GLI.CSF	810714	820611	000000	
		8	DB1:[204,1]GLI.RSF	810714	820611	820722	124
		9	DB1:[204,1]GLI.CRF	810714	820611	820706	94
		10	DB1:[204,1]GLI.CMT	810714	820611	000000	23
		11	DB1:[204,1]GLI.HIS	810714	820611	820708	53
PROJECT =	63						
		4	DB1:[204,1]DARES.CIF	820319	820611	820721	16
		10	DB1:[204,1]DARES.CMT	820319	820611	0	
		9	DB1:[204,1]DARES.CRF	820319	820611	0	
		7	DB1:[204,1]DARES.CSF	820319	820611	0	
		6	DB1:[204,1]DARES.CSR	820319	820611	820721	269
		11	DB1:[204,1]DARES.HIS	820319	820611	0	
		5	DB1:[204,1]DARES.RAF	820319	820611	0	
		8	DB1:[204,1]DARES.RSF	820319	820611	820722	37
PROJECT =	64						
		4	DB1:[204,1]DERBY.CIF	820517	820611	0	
		10	DB1:[204,1]DERBY.CMT	820517	820611	0	
		9	DB1:[204,1]DERBY.CRF	820517	820611	0	
		7	DB1:[204,1]DERBY.CSF	820517	820611	0	
		6	DB1:[204,1]DERBY.CSR	820517	820611	820721	50
		11	DB1:[204,1]DERBY.HIS	820517	820611	0	
		5	DB1:[204,1]DERBY.RAF	820517	820611	0	
		8	DB1:[204,1]DERBY.RSF	820517	820611	820722	5

Figure 2-49. File Name and Status File Report Program (DBRPTSTS) Output (8 of 8)

2.18 ESTIMATED STATISTICS FILE LISTING PROCEDURE (DBRPTEST)

2.18.1 INTRODUCTION

2.18.1.1 Function and Purpose

The Estimated Statistics File Listing Procedure (DBRPTEST) produces a listing of the contents of the EST file using DATATRIEVE. It is used to monitor the SEL data base and to perform research.

2.18.1.2 System Resources

The DBRPTEST procedure is a DATATRIEVE command file that is implemented on the PDP-11/70 computer under the RSX-11M operating system. The minimum operating configuration is a terminal, a disk, and a lineprinter. The terminal acts as an output message device. Input to the procedure consists of the EST file that is stored on disk and is on line to the PDP-11/70. The output listings are stored on disk by the DBRPTEST procedure and may be directed to the lineprinter by the user after the procedure terminates.

2.18.1.3 Approximate Run Time

The normal execution time of the DBRPTEST procedure depends on the size of the EST file. Approximately 47 seconds (wall-clock time) are required to execute the procedure on the current size of the EST file (47 records).

2.18.2 PROCEDURE INVOCATION

To execute the DBRPTEST procedure, the user enters the following command on the user's terminal:

```
DTR @[204,4]DBRPTEST.DTR
```

2.18.3 PROCEDURE OPERATION

After the user invokes the DBRPTEST procedure, DATATRIEVE will echo each DATATRIEVE command on the file [204,4]DBRPTEST.DTR to the user's terminal. Two output listings are produced. After execution is completed, a message, YOUR REPORT IS ON FILE 'EST1.RPT' FOR PART 1 AND 'EST2.RPT' FOR PART 2, will be displayed on the user's terminal. The user may print these listings by using the PRINT command; for example

```
PRINT EST1.RPT
PRINT EST2.RPT
```

2.18.4 SAMPLE OUTPUT

Figures 2-50 and 2-51 are sample output listings of the two reports produced by the DBRPTEST procedure for the current EST file. In each report, the statistics are given for each project on the file. The first report contains information relative to the size of the project (for example, number of modules, lines of code, and pages of documentation). The second report contains information relative to the resources used for the project (for example, number of programmer hours, management hours, and computer hours).

ESTIMATED STATISTICS -- PART 1

PROJECT	PROJ CODE	# COMP	TOT # MOD	# NEW MOD	# MOD MOD	# OF RUNS	# OF CHANGES	PAGES OF DOC	TOTAL # OF LINES	# OF NEW LINES	# OF MODIF LINES	# OF TOTAL EXECUT	# OF NEW EXECUT	# OF MODIF EXECUT
AADS	57	120	120	120	0	8039	1129	1000	15000	15000	0	19759	18165	1321
AADSIM	58	282	200	185	1	4604	1255	1000	12953	10387	507	19759	18165	1321
AEM	2	292	201	172	19	4604	1255	1000	50911	45345	4673	19759	18165	1321
AADS	45	240	240	180	0	4604	1255	1000	20000	16000	0	19759	18165	1321
ADDSEST	59	50	50	40	0	420		100	3000	2400	0	19759	18165	1321
AVG	9	70	70	70	0	420		100	3500	2400	0	19759	18165	1321
DARES	63	230	230	230	0	15017	2077	75	20503	20503	0	26320	16020	4601
DBAM	41	432	373	182	70	15017	2077	2107	67325	45004	9705	26320	16020	4601
DEA	36	414	391	216	65	14561	1575	2360	65266	44614	8606	24465	16745	2900
DEB	37	263	263	216	17	270	1274	140	20648	17999	1374	7726	5322	742
DECAP	42	161	134	74	22	2467	541	760	17271	10822	2331	7726	5322	742
DEDET	40	161	134	74	22	2467	541	760	17271	10822	2331	7726	5322	742
DEFULL	56	999	898	472	157	32045	4193	5227	150862	100470	20642	58511	38087	8243
DERBY	64	73	73	51	1	590	423	245	9004	4959	130	4482	4413	0
DESERV	43	113	102	93	0	1589	255	763	15258	14873	0	4482	4413	0
DESIM	38	55	55	30	10	647	811	305	5336	3805	576	4482	4413	0
DETRAN	44	55	55	30	10	647	811	305	5336	3805	576	4482	4413	0
ERBS	67	12	12	12	0			67	1200	1200	0			
FDRS	66	12	12	12	0			67	1200	1200	0			
FINREP	16	27	18	16	1	393		106	2572	1628	143			
FLIRGAIN	20	143	115	83	14	1283	530	106	14765	11878	1323	5687	4645	695
FOCS	47	42	41	39	0	735	255	66	5639	5510	0	1992	1976	0
FOXPP	34	101	74	44	14	548	275	300	9126	5354	1323	3695	2669	695
FOXPRO	35	101	74	44	14	548	275	300	9126	5354	1323	3695	2669	695
GEDAP	60	73	73	56	0	684	2176	235	10462	8834	0			
GESE	1	395	393	226	26			721	13216	56601	4161			
GLI	62	252	252	226	26			318	60762	61230	8141			
GMA5	21	626	560	450	75	15325	1740	3300	73371	61230	8141			
GSOC	39	74	55	45	8	1476	219	255	10172	9627	527	4421	4231	182
ISEEB	5	355	283	200	21	6871	1649	1104	55237	43955	3506	22938	18381	1403
ISEEC	8	423	374	92	30	3033	858	1120	75420	20075	6727	29128	8474	3017
MAGASP	55	74	48	41	0	546	289	163	5204	4921	0	1526	1322	0
MAGBIAS	7	24	24	19	2	168	65	171	2886	2000	486	1105	741	123
MAGCP	53	114	63	39	17	856	300	284	9727	7350	2049	4546	3250	1137
MAGDOG	52	44	41	38	0	465	158	169	4525	4160	0	2167	2060	0
MAGINT	50	245	148	72	29	2354	795	873	38222	18680	7838	12137	8859	2242
MAGIRC	54	35	23	23	0	221	135	61	2052	2052	0	584	584	0
MAGLOG	51	39	38	13	15	332	103	136	5497	2451	1347	1226	673	385
MAGNRT	49	113	100	71	7	1151	314	511	14282	9568	892	6800	5038	377
MAGSAT	26	851	604	409	84	7379	2761	2695	89513	61950	14297	36136	26931	5105
MAGTP	48	180	136	105	16	1395	660	527	14863	12227	1571	6839	5364	857
MARS	3	104	104	26	32			95	4600	1169	1483			
NPP	13	109	109	31	78			100	5200	3200	2000			
PAS	6	587	510	346	122	11976	3228	2473	111868	84729	20041	46271	33810	7356
RADMAS	61	647	574	196	39	15966	4963	506	97344	33244	6612			
SAP	15	69	69	69	0		23	139	6300	6300	0			
SEASAT	10	638	535	337	31	7500	2107	1793	75393	49316	4252	30448	19098	1179

Figure 2-50. Estimated Statistics File Report Program (DBRPTST)
Output, Part 1 (1 of 2)

ESTIMATED STATISTICS -- PART 1															27-JUL-82		
															PAGE 2		
PROJECT	PROJ CODE	# COMP	TOT #	# NEW MOD	# MOD MOD	# OF RUNS	# OF CHANGES	PAGES OF DOC	TOTAL # OF LINES	# OF NEW LINES	# OF MODIF LINES	# OF TOTAL EXECUT	# OF NEW EXECUT	# OF MODIF EXECUT			
SMM	19	639	519	418	59	7527	2710	2458	85369	76883	5652	38157	35203	2161			
SMMFULL	46	856	689	546	81	10283	3459	3017	110306	98388	7502	48265	44079	3038			

Figure 2-50. Estimated Statistics File Report Program (DBRPTEST)
Output, Part 1 (2 of 2)

ESTIMATED STATISTICS -- PART 2

PROJECT	PROJ CODE	PROG HOURS	MGMT HOURS	OTHER HOURS	360 95 HOURS	360 75 HOURS	OTHER CMPTUR HOURS	STAT FLAG	ACTV FL AG	PROJ CATG
AADS	57	100000	10000	0	0	0	0	1	Y	6
ADSIM	58	36706	5604	0	0	0	395	1	Y	6
ADM	2	89115	36765	11090	2228	1595	0	5	N	1
ADDS	45	120000	10000	0	0	0	0	1	Y	6
ADDEST	59	30000	3000	0	0	0	0	1	Y	6
AVG	9	5690	0	0	50	0	0	5	Y	5
DARES	63	0	0	0	0	0	0	1	Y	4
DBAM	41	20800	1380	0	0	0	1500	5	N	4
DEA	36	149476	45273	28462	6704	3169	0	5	N	1
DEB	37	134639	45328	32669	5381	2719	0	5	N	1
DECAP	42	37934	1905	539	2627	1196	800	5	N	1
DEDET	40	34532	11800	6950	796	1009	0	5	N	1
DEFULL	56	318647	102401	68081	12881	6897	0	5	N	1
DERBY	64	0	0	0	0	0	0	1	N	1
DESERV	43	11590	720	350	155	0	200	5	N	1
DESTM	38	31638	13022	11942	628	4	0	5	N	1
DETRAN	44	3200	320	30	81	81	0	5	N	1
ERBS	67	0	0	0	0	0	0	1	N	1
FDRS	66	0	0	0	0	0	0	1	N	1
FINREP	16	1872	490	0	0	0	0	5	N	5
FLTRGAIN	20	6360	320	0	86	7	0	5	N	1
FOCS	47	29385	6768	5310	439	663	1050	5	N	1
FOYPP	34	10180	766	34	212	97	1050	5	N	1
FOYPRO	35	19205	6002	5276	227	566	0	5	N	1
GEDAP	60	22653	2917	300	0	0	174	1	Y	2
GESS	1	32111	9409	6480	0	0	0	5	N	5
GLT	62	32000	5500	3250	0	0	0	1	Y	2
GMAS	21	0	0	0	3770	1575	0	1	N	2
GSOC	39	16675	4986	5436	643	149	0	5	N	1
ISEEB	5	129299	23316	13780	1638	1563	0	5	N	1
ISEEC	8	41706	16209	10790	930	763	3	5	N	1
MAGASP	55	11166	1765	1627	215	14	0	5	N	1
MAGBIAS	7	3457	383	580	525	0	500	5	N	1
MAGCP	53	10115	1290	1284	44	315	0	5	N	1
MAGDUG	52	9775	3446	2317	123	73	0	5	N	1
MAGINT	50	35202	9091	5079	259	730	0	5	N	1
MAGIRC	54	5182	2290	1118	93	0	0	5	N	1
MAGLOG	51	7780	2269	2010	140	0	0	5	N	1
MAGNRT	49	14023	1536	2349	139	344	0	5	N	1
MAGSAT	26	123143	28078	19265	1270	1825	0	5	N	1
MAGTGP	48	23035	6392	3381	263	323	0	5	N	1
MARS	3	5257	1320	280	0	0	0	5	N	5
NPP	13	1500	700	0	0	0	0	5	N	5
PAS	6	128522	29078	43160	3113	1537	0	5	N	1
RADMAS	61	58292	25033	13699	0	822	0	1	Y	2
SAP	15	7041	1970	1770	0	0	0	5	N	5
SEASAT	10	109565	35510	12310	2090	1930	0	5	N	1

Figure 2-51. Estimated Statistics File Report Program (DBRPTEST)
Output, Part 2 (1 of 2)

ESTIMATED STATISTICS -- PART 2

PROJECT	PROJ CODE	PROG HOURS	MGMT HOURS	OTHER HOURS	360 95 HOURS	360 75 HOURS	OTHER COMPUTR HOURS	STAT FLAG	ACTV FL AG	PROJ CATG
SWM	19	116586	27119	27444	3120	1852	0	5	N	1
SWMFULL	46	162646	38873	38190	4202	2654	1050	5	N	1

Figure 2-51. Estimated Statistics File Report Program (DBRPTEST)
Output, Part 2 (2 of 2)